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ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

**APPROPRIATE TREATMENT OF CERTAIN VARIETIES OF
NASAL DEFLECTIONS AND REDUNDANCY.***

BY D. BRADEN KYLE, M.D., PHILADELPHIA.

Clinical Professor of Laryngology, Jefferson Medical College; Consulting Laryngologist,
Rhinologist and Otologist, St. Agnes Hospital, Philadelphia, Etc.

It is not my purpose to review the entire subject of nasal deflections, with the various methods of correction by surgical procedure; the field has been too thoroughly gone over within the last few years to necessitate repetition. The object of the paper is to call attention to certain varieties of deflections, with treatment suited to each peculiar variety. It is impossible to formulate rules for the correction of deformities which are applicable in all cases; the location of the deformity, the contour of the nasal cavities, the thickness of the nasal septum, the general systemic condition of the individual necessarily controls in individual cases, the variety of operation to be employed; indeed, each individual case will necessitate the modification of our own method. The drawings, as shown in Fig. 1, illustrate the variety of deflection with which this paper has to deal.

VARIETIES.

The varieties of deflection considered in this paper are:

1. The split cartilaginous septum with bulging into both nostrils, as shown in Fig. 1 (7).
2. Dislocation of the columnar cartilage.

*Read before the American Laryngological, Rhinological and Otological Medical Association, Cincinnati, Ohio, June, 1899.

3. Simple deflection in which the cartilage is very thin.
4. The letter S deflection.
5. Deflection of the cartilage with involvement of the bony septum.
6. Deflection due to the splitting of the cartilage with bulging on one side only.
7. Deflection in which there is redundancy of tissue overlapping the septum and extending close to the floor of the nose.

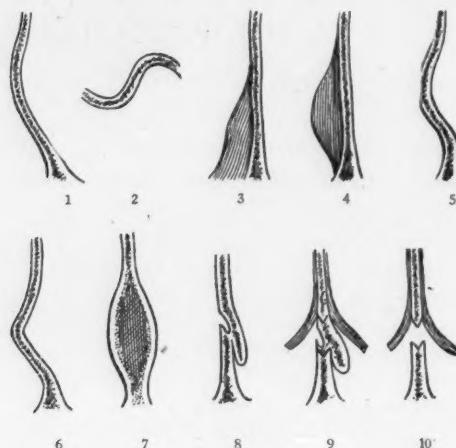


Fig. 1.

DEFORMITIES OF THE SEPTUM.

In a perfectly formed nostril the septum should be perpendicular to the floor of the nose, separating the two cavities into chambers of equal dimensions. As a rule, however, there is a slight difference in the size of the two nostrils, the septum frequently deflecting slightly to one side. This may become more pronounced in adult life, owing to irregular change within the cartilaginous structure. The tendency to deviation is also increased by inflammatory processes. It is almost impossible to describe the various deviations or deflections of the septum, as each individual case will present slightly different features. The curvature in the septum may be either

longitudinal or perpendicular. It may be a single curvature, as shown in Fig. 1 (1), or it may be of the letter S or scroll-shaped variety, as shown in Fig. 1 (2). It may be limited to the cartilaginous portion or may involve both cartilage and bone, rarely ever involving the bony septum alone. Fig. 1 (6) shows some of the various deflections with and without redundancy. As to the general causes deflections may be divided into (1) Deviation or deflection from disease; (2) Traumatic deflection; (3) Congenital deflection.

1. Deviation or Deflection from Disease. Deflection of the septum may be brought about by disease occurring directly in the structure, or as a secondary condition depending entirely upon some constitutional lesion. Inflammatory processes, involving the mucous membrane lining the cartilage, may so weaken it as to permit of slight deflection. This is especially true in purulent rhinitis in children, also in the strumous and the rachitic diathesis. Atrophic rhinitis has been granted by some authors as a possible cause of deflection. It is possible that in the early stage of the inflammatory process the cartilage, owing to its inflamed condition and possibly to its irregular, uneven development from muscular action of the external nasal muscle, may be slightly deflected. However, I think, as a rule, the deflection existed before the atrophic rhinitis and was more an exciting factor than a result of that process. Deviations may also follow in childhood upon disease of the teeth, especially during first dentition; and, if early recognized, many cases might be prevented.

Superficial ulceration in syphilis, tuberculosis and lupus without actual perforation may cause deflection and deformity. Simple ulceration, as well as ulceration following diphtheria and typhoid fever, are also exciting factors in deflection. Perichondritis, whether associated with any specific inflammation or not, may result in deflection. Enlarged turbinated bones by pressure on the septum, with the resulting inflammatory changes, will produce deflection; the same can be said of the tumors. In uric-acid diathesis there is pronounced irritation of the mucous membrane, which may result in peri-chondritis and tend toward deflection. Deviation due to simple abscess of the septum presents a very small scar on the surface, while that due to a specific process will present considerable scar tissue (pug-nose). Perichondritis, regardless of the cause, may result in the destruction of a portion of the cartilage, leaving the soft parts intact; yet sufficient of the cartilage is destroyed to give marked deviation and deformity.

2. Traumatic Deflection. Deviation of the septum from injury occurs most frequently in childhood, although it may not be recognized until adult life. Children are subjected more often to injury of the nose, and at the same time little attention may be given to trauma, which may later result in a serious deflection. Owing to the flexibility of the cartilaginous septum, blows of sufficient force to cause deflection of this structure must necessarily involve the bony septum. Great difficulty may be experienced in determining the cause of the deflection, yet frequently when the patient is conscious of the obstruction or irregularity of his nostril he will state that it followed a severe blow on the nose. Such an injury may occur in a child that is not of sufficient age to recognize the importance of nasal breathing. Through fear of treatment it may say nothing about the injury, although the deflection or the thickening produced by the callus, thrown out after the fracture of the bone or cartilage, may almost obstruct nasal breathing on one or other sides. In any variety of deflection the deformity may be purely internal, although in deflections due to blows it is usually noticeable externally. The direction of the blow and its force determine the degree and variety of deflection. A peculiar case, illustrating the effect of a blow on the nose, I observed in my private practice.

A young man, twenty-two years of age, while playing foot-ball, received a severe blow directly on the nose by colliding with the head of an opposing player. The injury was followed by considerable external swelling, but in the course of a few days all external inflammatory symptoms had disappeared. However, the obstruction to the nasal breathing continued, although after some two or three weeks, when the internal swelling had entirely subsided, there was considerable improvement in this as well. When examined some three months afterward, practically no external deformity was noticed, there being no change in the facial contour. Rhinoscopic examination, however, revealed the cartilaginous septum bulging into each nostril, occupying at least two-thirds of each nasal space. By pressure within each nostril the cartilage could be pushed back to the median line. The force of the blow had simply separated or split the cartilaginous septum (Fig. 1 (7)). This was crushed sufficiently to permit of its being easily held in position and sufficient irritation set up to produce an inflammatory exudate between the two layers to allow union, which was held in position by the author's modified Mayer's tube, as described in Fig. 2. Traumatic deflection and deformity may be of sufficient gravity to necessitate extensive surgical interference. This is especially true when the bony nasal framework is involved.

A deflection of traumatic origin frequently occurs just within the nasal orifices. The irregularity of the cartilaginous septum itself being slight, the deflection is due entirely to a dislocation of the anterior end of the septum from the *columnar cartilage*. Owing to its location the deflection is sufficient to cause obstruction to nasal breathing. It shows as a prominence with a smooth covering of thin mucous membrane, which is usually slightly inflamed owing to the mechanical irritation necessarily produced by its unnatural location. It is situated just within the anterior nares and extends to the mucocutaneous surface. There is a slight depression in the opposite nostril, corresponding to the prominence. The prominence is often seen without the aid of the nasal specula. While this deflection is

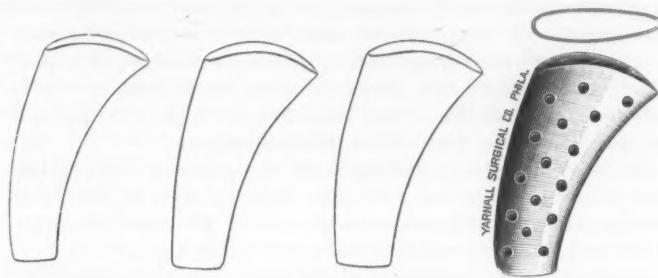


Fig. 2.

usually the result of injury, it is frequently met with as a consequence of disease or as a malformation in the sense of irregular development. The dislocation may produce deformity, the tip of the nose often drooping or deflecting slightly to one side.

Slight dislocation occurs in a larger percentage of cases than is usually believed. The condition is rarely, if ever; of such gravity as to require surgical interference, unless it is associated with deformity of the cartilaginous or bony septum. If the cartilage is split, and the depression on the opposite side is slight, the obstructing cartilage should be removed. This can be done without fear of the tip of the nose drooping if the opposite side be intact. The mucous membrane should be dissected free from the cartilage, the cartilage removed and the flap is then allowed to drop in position. Owing to

the vascularity of the tissue it will rapidly repair, and it is not necessary to stitch the membrane in position. The surface should be kept clean with warm boric-acid solution, 10 grs. to the ounce, and the nostril should be loosely packed with cotton saturated with hydrogen peroxid—for protection and not pressure.

3. *Congenital Deflection.* I believe that many cases of the so-called congenital deformity of the bones of the nose are due to the fact that at birth during labor, owing to the position of the head in the birth canal, considerable pressure has been exerted on the soft, almost cartilaginous, bones of the nose. It is a well-known fact that much can be done toward the shaping of the nose at this time.

Again, that the free passage of air through the nostril has much to do with the regular development of the nasal fossa, as well as the formation of the superior arch and the asymmetry of the facial bones, I have frequently observed to be true. This is well illustrated in the irregular facial deformity, especially of the superior maxillary bones with irregular development of the teeth, which is seen when the nasopharynx is obstructed in early life by adenoid vegetations. The poor breathing through the nose allows the bones so to form as to produce the narrow slit-like orifice, and often the high V-shaped hard palate, so commonly found in the mouth-breathers.

Again, in the constant sniffling which is noticed in children with obstructed nasal breathing, a continual drawing down of the facial muscles, while the bony union is taking place, will cause narrowing of the arch and give a peculiar dish-faced expression.

I believe that the importance of the effect of perfect nasal respiration in early childhood on the regular formation and shape of the nasal cavities, thereby controlling the facial expression, cannot be overestimated. At least, observation shows that individuals who in childhood have perfect respiration have a regularly formed upper jaw, regularly formed teeth, with perfect facial contour, while those with imperfect nasal respiration show exactly the opposite. I assert, then, that what is often termed malformation or congenital deformity is, in reality, developmental deformity, brought about by imperfect nasal respiration, or imperfect and irregular development due to bad systemic nutrition or dyscrasia. The worst feature of these developmental deformities is that, unless perfect nasal respiration is established *early in life*—*i. e.*, before the fifth or sixth year, or not later than the seventh—the bony and cartilaginous framework becomes so firm that little can be done toward increasing the nasal space for breathing, and the individual will of necessity be a mouth-breather for life.

Treatment. To give a plan of treatment that would be applicable to all cases of deviation and deflection would be impossible. Many methods have been advanced, and there are many modifications of the various methods presented, which are in reality only some modification of Adams' original operation. Yet each individual case with its own peculiarities and variations demands its own special modification of treatment.

There is a variety of deflection, involving only the cartilaginous portion, which is very thin and flexible. Fig. 1 (1). By inserting the finger into the nostril the septum may be straightened back to the perpendicular. In such cases it is not necessary to lacerate in any way by holding it in position with pins or by cutting it to weaken it, so as to be held more readily in position. The plan which I have found very successful—merely a modification of the pressure-method suggested by Quelnalz—is in the use of a flexible or rather malleable tube, which is shaped first to fit the deflection, then by gradually widening the tube there is gradual pressure brought to bear on the deflected part, producing slow inflammatory process. The tubes, as shown in Fig. 2, are inexpensive, and should be made to suit each case. The calibre of the tube is increased or diminished to suit the amount of pressure required. As a rule it will necessitate the wearing of the tube from four to twelve hours each day for two or three weeks, although frequently it can be left out as long as three or four days at a time. The tube should never be allowed to remain in sufficiently long to produce ulceration, but, if the directions given above are followed as to the length of time it should remain in position, ulceration will not occur. This gradual pressure will from inflammatory organization thicken the septum, increasing its strength.

Deflection of the septum does not always demand surgical interference. While any irregularity in size or unevenness of the contour will tend to promote catarrhal conditions, yet, if there is sufficient space for the free passage of air, operative interference is not demanded.

If the deflection is limited to the cartilage and presents a regular convex and concave curvature, removal of tissue will not be necessary; but in the regular letter S curvature, Fig. 1 (2), in which the septum is almost folded on itself, causing redundant tissue, the mass cannot be forced back and retained in position, and will necessitate surgical interference. In the simple curvature, Fig. 1 (1), *without redundant tissue*, in which the septum is thick and firm, I have found the following method to be most satisfactory. If the curve extends

to the floor of the nostril, or the junction of the cartilage with the superior maxilla, a cut should be made on the opposite side from the deflection, close to the base and extending through the mucous membrane to the cartilage. Then by means of the nasal saw (Fig. 3),

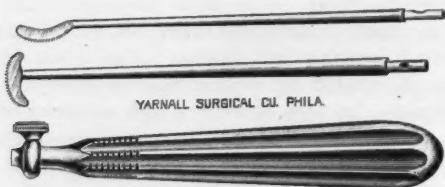


Fig. 3. Nasal Saw.

the cartilage should be cut to about one-third its thickness. If, however, the curvature does not extend to the floor, this incision may be omitted. The patient should be anesthetized, and by the use of the forceps, shown in Fig. 4, the cartilaginous septum is fractured or

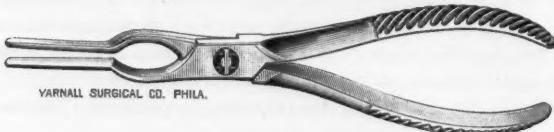


Fig. 4. Nasal Forceps.

crushed by rolling the forceps. The rounded blades prevent laceration of the tissue. This will permit of the moulding of the septum into the desired shape and position. It should then be retained in position by means of the tubes described in Fig. 2. If within the first twenty-four to forty-eight hours there are marked swelling and edema, the tube should not remain in position, as the parts can easily be moulded up to this time, since no inflammatory organization will take place under forty-eight hours. If, however, the swelling is not marked, the tube may be left in position from the first. The diameter can be controlled by the pressure and support desired. While

the tube is in position the nostril should be flushed every two to four hours, depending on the amount of secretion, with a tepid solution composed of boric acid, 10 grains; carbolic acid, 2 drops to the ounce of tepid water. Until the fifth or sixth day, should there be considerable swelling, causing marked pressure, the tube should be removed from the nostril daily and allowed to remain out at least eight to ten hours; this will prevent any likelihood of ulceration. Should this same curvature extend back to the bony framework, the same method should be employed, except that in order to *control the line of fracture* of the bony septum after cutting through the mucous membrane, the bone should be sawed by means of the curved nasal saw, shown in Fig. 3, at least one-third its thickness. This should be done at two points so as to divide the septum into equal thirds, (Fig. 5). The line of fracture will thereby be controlled, as

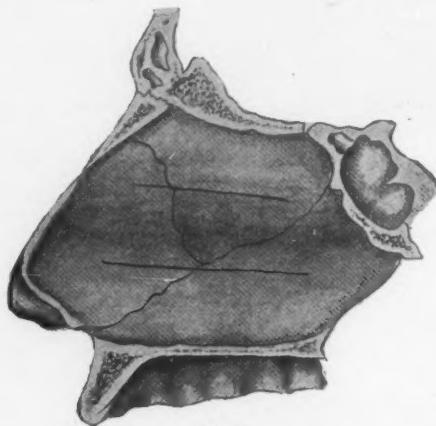


Fig. 5.

the septum is crushed by the rolling forceps. If the bony portion is thick and firm, the incision may have to be made deeper than one-third. If more force is required to correct the deformity than can be exerted by the rolling forceps, the dilating forceps should be used. The septum should be retained in position in the same manner as described above. If the deflection is a vertical one of the triangular or V-shaped variety, before crushing, two vertical in-

cisions should be made two-thirds of the entire perpendicular length, dividing the deflection into equal thirds. This can be done by means of the saw shown in Fig. 3. The straightening of the septum and its retention in position can be accomplished as described above. As a rule, in deflection or deviation of the septum there will be found, in the large nostril, or that corresponding to the concavity of the septum, enlarged turbinates with thickened mucous membranes. These should be removed before the septum is straightened; otherwise, when it is forced back into position and the obstructed nostril relieved, there will be produced obstruction in the opposite nostril, or merely a transference of obstruction from one side to the other.

The tubes described in Fig. 2 are modified after Mayer's or Asch's patterns, and differ very much in shape from the metal tube devised by Harrison Allen. The advantage of the tube seen in Fig. 2 is that it can be moulded to fit any nostril, and the pressure can be controlled. The metal is soft so as to allow its being cut very easily with an ordinary knife, in order that the tube may be shortened at will and adapted to individual cases; besides, the surface impinging against the septum is flat, thereby distributing and equalizing the pressure, with less likelihood of ulceration. The tube can be indented to fit any projecting point on the septum, lessening danger of ulceration from pressure. The outer surface may be also rounded and moulded to fit the turbinal surfaces so as not to permit of excessive pressure on any one point.

While I am aware that the method given above demands considerable attention on the part of the operator, yet from my own experience with the various other procedures employed for the variety of deflection given, I find none so satisfactory. In thirty-seven cases I have had failure in six. Two were cases where there was redundant or excessive stricture, in which, owing to the excess of tissue, the septum could not be forced back and held in the median line. In three cases I did not sufficiently crush and weaken the septum, and the pressure was so great from the nasal tube that ulceration was threatened, necessitating the removal of the tube. Unfortunately, the tube could not be retained in position long enough to support and hold the septum in the perpendicular line. This necessitated a secondary operation, in which the septum was more thoroughly crushed. In another case, the deviation was not only cartilaginous, but extended into the bony structure. Two days after operation the case was complicated with an attack of grippe. On account of the suffering of the patient from the combined condition, I deemed it advisable to remove the tube, which exerted sufficient pressure to

retain the fractured bone and cartilage in the correct position, I was compelled to use a smaller tube, and, although the result was fairly good, yet the complete establishment of normal, nasal respiration was not accomplished.



Fig. 6.

Another variety of deflection of the septum occurs, in which there seems to have been splitting of the two halves, with bulging on only one side (Fig. 6), the opposite side being almost perpendicular.

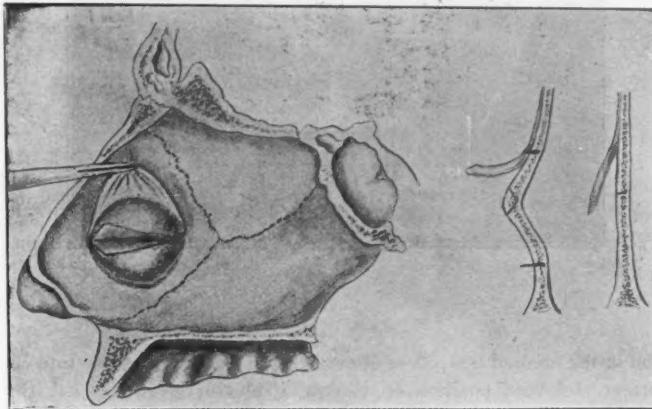


Fig. 7.

The deflected portion assumes an acute angle, the apex of which is markedly thickened. In such deflections all that is necessary is that a semi-circular incision be made from the under portion of the projection (Fig. 7), the mucous membrane dissected up, and the under-

lying cartilaginous or bony projection sawed off. Great care should be taken not to penetrate the septum or injure the mucous membrane or blood supply of the opposite side, thereby lessening the danger of ulceration or perforation.

In cases of deviation or deflection of the cartilaginous septum, in which there is redundant tissue, the cause of failure in operations has been due in most instances to failure in removal of this redundancy. There is too much tissue for the space into which it has been crowded, and hence, when compressed or forced into a normal posi-

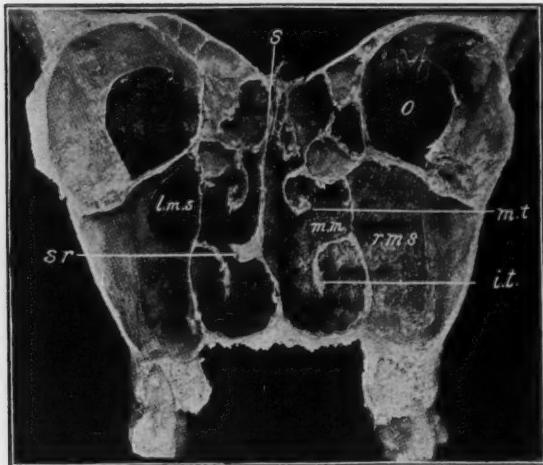


Fig. 8.

tion in the median line, its resiliency tends to force it back into its former abnormal position or an equally obstructive one. For the correction of such deformities, where the redundant tissue is limited to the cartilaginous portion, as seen in Fig. 1 (6), the mucous membrane should be dissected up and the V-shaped portion of the cartilaginous septum (Fig. 7), be removed, the amount removed depending on the extent of the redundancy. This should be done by sawing into the cartilaginous septum, being careful not to cut through the mucous membrane on the opposite side. This incision

in the cartilage may be made by means of the saw shown in Fig. 3, or the knife or gouge. After the V-shaped incisions are made, the detached portions of cartilage should be carefully dissected off by means of the dry dissector, although in many cases the detached piece of cartilage can be readily dissected by the use of the finger nail. The same method should be followed where spurs form, as shown in Fig. 8.

The after-treatment should consist in freeing the nostrils of any retained secretion, but better results are obtained if the parts are not irritated by repeated douching. Sterile water with 5 to 10 grains of boric acid will render the surface sufficiently clean.

Much of the success in treatment of straightening of the septum by the use of malleable metal tubes depends upon careful attention on the part of the operator. The patient should be seen frequently and the caliber of the tube altered, so as to prevent too long-continued pressure in one place, thereby lessening the danger of ulceration; for, if ulceration occurs from pressure, it will necessitate the removal of the tubes for a time sufficient to allow healing of the ulceration, and possibly cause failure to straighten the septum. The variety of the deflection shown in Fig. 1 (8) is frequently associated with lesions of the central incisors. This is especially true when the alveolar process of the upper jaw is thin and the tip of the root of the tooth is in close contact with the floor of the nose. The irritation produced by the accumulated secretion beneath the projection on the septum, causing perimetritis, and the method of correction of such deformity of the septum, is shown in Figs. 1 (9, 10).

Each deflection will require some modification from a given method, and no one operation will answer in all cases. This is shown by the many methods proposed. The conditions presenting, however, will necessitate a combination of methods rather than the following of any one method.

THE THERAPEUTIC EFFECTS OF VIBRATORY MASSAGE IN CHRONIC DEAFNESS.*

BY PROF. OSTMANN, MARBURG.

In consequence of persistent occlusion of tube consecutive to otitis media there are often alterations in the conducting apparatus which resists the several treatments habitually employed. It is therefore our duty to test all the claims of progressive otology in such cases as are considered incurable. Vibratory massage as a therapeutic measure is one of these. Some otologists have rejected it without trial, others have preached it enthusiastically, but I think none have tested its entire scientific application. This essay is the outcome of my scientific studies of the mechanism of the various instruments for massage in use, and observation of their influence upon the sound conductive apparatus of the middle ear. "Experimental Examination of Massage of the Ear." (*Archiv. f. Ohrenheilk.*, Band xliv and xlvi, 1, 2).

It would have been interesting to have supplemented these investigations with examinations of pathologic specimens of sound conducting apparatus, but unfortunately I could obtain none.

In my clinical investigations of the curative effects of vibratory massage I have used patients afflicted with chronic deafness of the middle ear. All the patients observed were deaf for a number of years in variable degrees, and the different treatments to which they had been subjected had all failed. Through experiments upon the normal ear I discovered the most effective method of vibratory massage. Hirschmann, of Berlin, instrument was used. The masseur set for a 2 millimetre piston-stroke was applied daily. The revolutions were as fast as 1,000 to 1,200 ear-puffs were sent against the membrane. With one patient the sitting was prolonged to twenty-five minutes. To produce vibrations it is indispensable that the ear piece fit air tight into the meatus—the smallest escape nullifies the effect. The immediate sensation is never that of disagreeable irritation, only a sensation of slight fullness in the ear. Some affirm that there is a sensation of warmth which disappears usually in a quarter of an hour.

I have verified this method in four cases, three of old chronic otitis media, and one of sclerosis so accentuated that the patient

* Author's abstract of paper read at Sixth International Otological Congress, London, August, 1899.

had to employ lip-reading. In order to be assured of the beneficial action of vibratory massage I made careful functional examination of the commencement, and during the treatment, so as to arrive at just comparisons. With this end in view all objective changes in the ear, nose and throat were noted, and each ear tested by the continuous (tone) scale concerning the subjoined:

1. The upper and lower limits of hearing (known as "range of hearing").
2. The duration of hearing for C, c, c¹, c², c³, c⁴, c⁵, compared with normal.
3. The hearing capacity for tone conduction (Weber's and Schwabach's tests).
5. The hearing capacity for figures, 1 to 100 whispered, and words uttered in high, middle and low tones.

The results of the massage of the several cases were as follows: In none were there objective changes. The intense nopsis perceived by all did not increase, but were rather diminished though they did not entirely cease. As before massage was begun great variations in the intensity of the nopsis were observed, but the rule was that they did not regain their original loudness.

With certain patients the increase of hearing was increased downwards very much, a notable prolongation of the duration of the hearing of the octaves to c⁵.

Here are the details of the observations:

Case 1. Ch. M. E. Catarrh—Hearing power before commencement of massage:

Range of R. ear from E of the great octave to O. 1 Galton.

Hearing L. ear from # of the contra octave to O. 1 Galton.

Duration of hearing, for the octaves C to c⁴ in comparison to normal, this being computed as 100 (see column 1 of the accompanying table, simple and oblique shading).

Weber, uncertain, rather to the left.

Schwabach, +5 sec.

Rinne { R.
L.

Whispered numbers, { R. "8" at 15 cm.
L. "7" at 25 cm.

Both ears were massaged every day, and no other treatment employed. After four months treatment the duration for all octaves from C to c⁴ had considerably increased; the lower limit of hearing had extended downwards in the right ear from E of the great octave to C of contra octave; in the left ear from G# to C of the contra octave.

Case 2. Ch. M. E. Catarrh—Hearing power before massage:

Range { R. from A of the subcontra octave to O.1 Galton.
L. from D of the great octave to O.1 Galton.

Duration for octaves C to c⁴ in comparison to the normal, the latter being computed as 100 (see Case 2, column 1 in the table simple oblique shading).

Weber, more to the left.

Schwabach, + 7 sec.

Rinnie { R. 16 sec.
L. 18 sec.

Whispered numbers (residual air): { R. "3" at 50 cm.
L. "3" at 5 cm.

Massage was now applied from September 9, 1898 to November 29, 1898. On the latter date the result was found to be:

Range of hearing; extended downwards, right, from A to C of the subcontra octave; left, from D of the great octave to E of the subcontra octave.

Duration of hearing, (see column 2, Case II) was increased for most tones not inconsiderably, though for a few it was decreased.

Case III. Hearing power before massage:

Range { R. from G to the great octave to 1 O. Galton.
L. from A of the contra octave to 0.8 Galton.

Duration of hearing, from octaves C to c⁴ in comparison to the normal (the latter being computed as 100) see column 1 of Case III (simple oblique shading) in the table.

Weber, distinctly to the right.

Schwabach, + 14 sec.

Rinnie { R. c¹—11 sec.
L. C—23 sec.

Whisper { R. "3" at 15 cm.
L. "3" at $\frac{1}{2}$ m.

Massage was used every day at short intervals, dating from October 20, 1898 to February 11, 1899. Examinations were conducted on November 23, 1898, January 1, 1899, and February 11, 1899, the results being apparent in columns 2, 3 and 4 of Case III. The improvement in auditory acuity in the case was, we are compelled to admit, very slight. The left side showed the duration of hearing for c to c⁴ diminished a little. There was increased range downwards, for the right; for the left from A of the contra to G of the subcontra octave. The noises were much diminished. Likely this caused the patient to declare her hearing much improved, though but slight alterations were observed objectively.

Case IV. Sclerosis—Hearing-power before massage:

Range { R. from G of the contra octave to 3.6 Galton.
L. from A of the contra octave to 2.2 Galton.

Duration of Hearing for octaves C to c⁴, in comparison to the normal, the latter computed at 100 (see column 1, Case IV, in the table).

Weber, uncertain.

Rinnic { R. c⁴, 23 sec.
L. c, 12 sec.

Schwabach + 5 sec.

No accentuation of tone conduction where meatus were closed. Only when they were spoken close to the ear could medium loud numbers be heard. Patient had massage daily at short intervals for a month. A 2 millimetre stroke of great rapidity was employed, the sittings lasting 15 minutes. In addition on certain days slow massage was employed, a 4 millimetre stroke being applied for 4 minutes.

The results are subjoined:

Range—Right, no change; Left from A to F of the contra octave, and above from 2.2 to 1.8 Galton. Faulty observation may explain this extension of the upper limit.

Duration; for all the test tones, as exhibited in the tables, had increased considerably. The hyperemia of the mucous membrane of the inner tympanic wall disappeared, which is an important point. At the end of four weeks' treatment the patient could be conversed with by speaking close to her left ear with raised voice.

These few cases are not supposed to furnish a complete picture of vibratory massage, but rather as the beginning of scientific study of the subject and this method of treatment. In any further investigations a few facts will be of assistance.

Conclusions—Vibratory Massage is Contraindicated:

1. In all the acute inflammatory conditions of the sound-conducting apparatus.
2. In all diseases of the sound-perceiving apparatus with normal sound conduction. However, if rigidity of the ossicles exist it would be well to try the massage.
3. It would seem, from its mode of operation, that vibratory massage is of little benefit in middle-ear disease attended with retraction of the ossicles, simple chronic middle-ear catarrh, or when there is extensive atrophy of the membrane, or adhesions of the same. Further experiments are necessary to determine its place in these cases. Two weeks of treatment in all cases is necessary to form a fair estimate of possible benefits.

A CASE OF MASTOIDITIS—CEREBRAL TUBERCLE—DEATH AUTOPSY.*

BY BURNETT C. COLLINS, M.D., BROOKLYN.

Otolologist and Laryngologist to the Bushwick and East Brooklyn Dispensary; Assistant Surgeon Brooklyn Eye and Ear Hospital; Associate Ophthalmologist Bushwick Hospital.

Patient, a female child, fourteen months old, was brought to the Brooklyn Eye and Ear Hospital, August, 1899. Examination then showed a large abscess over the mastoid on the right side and the ear suppurating profusely from a small posterior and inferior perforation; the drum, especially the posterior and superior quadrant, distinctly bulged. The parents stated that the ear had been discharging about two weeks and the child cried continually and was apparently suffering severe pain. The swelling behind the ear had been noticed by them for about three days. Child very plump and healthy looking. Abortive treatment being out of the question, I operated about one hour after entrance to the hospital. Temperature, 101°.

Incision through the soft parts liberated a large amount of pus and showed great destruction of bone. All necrotic material was removed, the sinus opening into the antrum was enlarged and the apex was removed and showed that the apex cells were unusually well developed for one so young, so much so that I remember calling the attention of the doctor who assisted me to this fact. Otherwise there was nothing to note. No reason to suspect a tubercular process. It has been my experience that a tubercular process in this locality is accompanied by little or no pain. The wound was flushed with a carbolic solution, followed by alcohol, dried and packed with iodoform gauze. There being no indication, the wound was not dressed until the fifth day. It then looked unusually clean and healthy. It was dressed twice a week by the house surgeon and he reported to me that the case was doing unusually well and all thoughts of it had passed out of my mind.

Eight weeks after the operation, I was called to see a child, word being left that it was a case on which I had previously operated.

The parents stated that the child had been sick for two weeks. Their family doctor had been in attendance and said the child had bronchitis for which he prescribed. There being no improvement he advised them to send for me to examine the old wound of operation.

*Read before the Clinical Society of the Bushwick and East Brooklyn Dispensary.

The child was in bed, no desire to change position, would lie in any position it was placed and cried if disturbed. Convergent strabismus of both eyes, especially marked in the left, and ptosis of left. Pupils widely dilated, not responsive to light, apparently a slight facial paralysis on the left side. Temperature rectal 99, pulse 52 and weak. Child was nourished at the breast. Took nourishment regularly, no vomiting. The wound, which had been neglected for the last two weeks, was nearly closed, and was discharging small amount of pus. The drum-head healed and had regained its normal color. Child had a slight cough. Examination of chest negative.

I immediately suspected inter-cranial extension of the mastoid abscess, advised removal to the hospital, which was done the same day. The next day the child appeared much the same, although the paralysis on the whole left side was more marked and it was apparently blind. Examination of the eye ground showed no change from normal. Consultation with the surgeons of the hospital, a localized pus collection suspected in the temporal region. It was almost certain the child would die if nothing was done so I decided to operate.

I reopened the old wound, careful searching with a probe revealed no sinus other than the one previously made into the mastoid antrum. With the rongeur, I cut away the bone so as to expose the dura over the temporo-sphenoidal lobe. No extra dural collection was found, a dural flap was raised and a probe passed in every direction between the dura and the surface of the brain. An aspirating needle was then inserted into the brain substance in every direction, but found nothing. A button of bone was next removed for exploration of the cerebellum with a negative result. The wound was partially closed and packed with iodoform gauze. The child recovered from the anesthetic, had a convulsion the same night. The next day it was about the same as before the operation. The second day it began to grow weaker, refused nourishment and died on the third day. Temperature taken three times daily in the rectum ranged between 99° and 100°.

Autopsy by Dr. Shattuck showed brain substance everywhere softened, large increase in the cerebral fluid. Tuberclae involving brain substance in the temporo-sphenoidal lobe. Meshes of the pia-mater everywhere studded with tubercle. Tuberclae in the lungs, liver and spleen. Mesenteric glands enlarged. The sinuses of the meninges normal, but possibly a beginning meningitis at the base. The needle punctures were not visible. Remarks:

The only interesting point for the otologist would be. Was the mastoiditis tubercular? The autopsy showed no connection between the original trouble and the tuberculosis. I regret that in this case no examination, microscopically, of the contents of the mastoid was made. I do not feel at fault for having operated on the case. The fact that the child showed cerebral symptoms, together with the knowledge that a mastoid abscess had been neglected gave enough suspicion to account for the cerebral symptoms as an extension from the mastoid.

I might call attention to the extreme slowness of the pulse when first seen. The same condition noted in three cases of cerebral abscess recently reported.

1263 Dean Street, Brooklyn.

CORRESPONDENCE.

Editor THE LARYNGOSCOPE:—

In my article on "Parasitic Affections of the Pharynx," published in the September number of *THE LARYNGOSCOPE*, I failed to add to my list of references a paper on the subject, by Dr. M. Toeplitz, of New York, published in the *New York Medical Journal*, June 28, 1898, although I alluded to the article in the paper. If you will be so kind as to insert the corrected statement of the fact I shall be greatly oblige to you.

E. O. Sisson.

ANNOUNCEMENT.

As the date for holding the International Medical Congress falls in 1903, it has been decided that the next International Otological Congress shall not take place in that year, but in 1902. The meeting will be held at Bordeaux under the Presidency of Dr. Moure.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, November 22, 1899.

Robert C. Myles, M.D., Chairman.

Bony Cyst and Polyp.

Dr. J. E. Newcomb presented a bony cyst of the middle turbinate and a polyp from the same case. The patient was a stout German from whose nostril ordinary polyps had been removed three years ago. He had thence been well until February last when he presented himself with obstruction in the right naris, due apparently to another soft polyp. Removal with the cold snare gave the sensation as of going through a bony shell and the mass proved to be a genuine bony cyst. In the other mass removed there were bony spicules, but no true cyst formation. Following the removal of the latter there had been a sharp secondary bleeding requiring temporary post-nasal tamponment.

Regarding the causation of these bony cysts, the speaker said that the theory most commonly accepted was the one championed by Macdonald, that these spicules were the result of an osteophytic periostitis, as a result of which the bone incurred in both the antero-posterior and horizontal directions. This resulted in the formation of a cavity lined with the same kind of mucosa as covered the bone.

Dr. Thomas J. Harris said that about one year ago he had operated upon a case presenting a very similar condition. At first he had supposed he was dealing with disease of the ethmoid cells. On examination of the left side of the nose a very large mass of uncertain nature had presented itself, which had looked somewhat like a malignant growth. On using the cold wire snare he had found that he was dealing with an enormous bony cyst. He had removed this cyst, which was about three-fourths of an inch long. Since this had been removed he had been able to determine definitely that the patient was suffering from latent empyema of the frontal sinus. The case had been operated upon later by the external method, and the patient had ultimately made a good recovery.

Dr. Wright kindly examined a portion of the cyst wall and reports as follows: "The specimen presents a very fine example of the structure of such growths so far at least as the coverings of the bone are concerned. The bone itself does not present the evidences of rarefying osteitis which I have seen in other specimens. The contrast between the internal and external coverings is very marked.

"The internal presents no glands at all. It has, however, between the epithelium and the underlying bone, a zone of muscular arterioles, some cut longitudinally in the specimen and some transversely; also some veins, and in one place there seems to be some microscopic erectile tissue. The epithelium is of one or two layers and beautifully ciliated—a condition not often seen in specimens as usually submitted for examination.

"The external surface, however, presents all the usual evidences of inflammation, viz., edema, increase of stroma, round cell infiltration, a number of racemose glands with the epithelium slightly changed, no blood vessels, at least no arterioles as observed in the inner covering.

"The polyp which accompanies the specimen presents the usual characteristics of edema, but has rather more glands than usual.

"Hence we have here clear evidence of an inflammation of the mucosa confined to the outer layer of the membrane covering a bony cyst, while the bone itself and its internal covering are practically normal. Common sense urges that this is the usual course of events and that in these cases the lesion begins in the mucosa and subsequently extends to the bone contrary to the dictum of Woakes."

A Case of Healed Laryngeal Tuberculosis.

Dr. T. Passmore Berens reported this case, that of Mr. G., thirty-two years of age, who had consulted him May 14, 1896, for a progressive hoarseness, first noticed two or three months previously. His family history was good, but he had been treated for more than a year for a "fibroid bronchitis." Examination had revealed a very pale larynx, while above the left cord, and apparently lying on it, was a large edematous swelling springing from the ventricle. It gave the appearance of what had been formerly called "everted ventricle." On the upper surface of this swelling was an ulcer. Both cords were red, thickened and edges ulcerated. Both arytenoids were swollen. There were many enlarged veins at the base of the tongue and the lingual tonsil was enlarged with a cheesy mass in the center, evidently smegma. There had been dullness on percussion over the apices of the lungs, and exaggerated bronchial

respiration and many small bronchial and subcrepitant râles. Numerous tubercle bacilli were found in the sputum, and mycelial threads in the smegma. The internal treatment had consisted in the use of tonics and large quantities of milk. The growth in the larynx was injected with creosote, according to the Chappell method, and daily injections of iodoform and ether (one drachm to one ounce) were made into the larynx. The ulcerations had healed rapidly, and the growth, after the fourth injection of creosote, or in four weeks, had so markedly decreased that the injections were discontinued. In July the larynx was healed as regards the growth and ulcerations, but the redness and thickening of the cords had persisted. The patient was taught to use the iodoform and ether at home. In September his larynx had been well. He coughed less and expectorated less, though the tubercle bacilli persisted. In the spring of 1897 he had developed a small ulcer in the inter-arytenoid space. This had been treated with mono-orthochlorophenol, applied with a cotton applicator, and the iodoform and ether had been resumed. This attack had lasted six weeks. This man had had no further trouble in the larynx, but the bacilli had remained until last spring. He now was free from both expectoration and cough. His lungs were apparently healed, although dullness still persisted at both apices. During these years he had not left the city for any extended trip, nor had he lost a day's work, which was that of a dentist. The mycosis of the lingual tonsil had persisted. The smegma no longer contained tubercle bacilli. The patient was then presented for inspection.

Dr. W. Kelly Simpson said that the result was remarkable, and there did not seem to be any doubt about the diagnosis. To the fact of the pulmonary tuberculosis being in the early stages and to the persistency of the treatment was this remarkable result to be chiefly attributed. In other cases of the kind that he had seen there had always been some laryngeal changes left behind by which the former condition could be recognized.

Dr. Francis J. Quinlan said that he had hoped to have here this evening a patient seen about five years ago with a well-marked ulceration of the arytenoids, yet this ulceration had healed during a prolonged stay in the Adirondacks, and there was no evidence of tuberculosis in the chest, and the patient is at present enjoying excellent health with an excellent voice, not only for speaking, but has a good singing quality as well.

Dr. W. Freudenthal referred to a patient under his care who had had a very large ulceration of the epiglottis. The interior of the larynx was not involved. Although this man lived amid bad surroundings, was poorly nourished and was a hard working tailor, the

local lesion had absolutely healed. Notwithstanding this favorable result in the larynx the disease had progressed in the chest.

Dr. W. K. Simpson remarked that the case last reported was more localized, and was, therefore, quite different from a lesion on the interior of the larynx.

Dr. Myles said that about four years ago a man had come to him from Connecticut after having been in the hands of several physicians without a diagnosis having been made. There was some infiltration of the ventricular bands, and the sputum contained numerous tubercle bacilli. He had been advised to go to New Mexico, but had remained in New York city under another physician, and was to-day perfectly well. Two cases of primary tuberculosis of the epiglottis had come under his care which had had some involvement of the lungs. In one he had removed the epiglottis, and had advised the patient to go to New Mexico. These patients had been under the care of skilled physicians, and they had failed to make the diagnosis in one case because the microscopical examinations of the sputa had not shown the presence of tubercle bacilli. Yet microscopical examinations of sections of the epiglottis showed them in abundance. He would emphasize the necessity for the prompt and complete removal of the epiglottis after having made an early diagnosis of tuberculosis of this part.

Dr. Wright showed a nasal trephine which he had used with an electric motor attached to the street current, such as is used to reduce the current for cautery purposes. While attached, and just after being used in a patient's nose, the instrument came in contact with a water pipe. Short circuiting had taken place, and a hole had been made by the current through the steel barrel. It was evident from this that if the patient, while the instrument was in the nose, had touched a ground connection, as she might easily have done by a sudden movement, the full force of the street current would have passed through her nasal tissues with possibly very serious, at least very disagreeable, results. It, therefore, seemed of importance that this matter should be brought to the attention of the section, that those operating in this manner might guard against the possibility of such an accident by having the flexible shaft connecting the trephine with the motor insulated from it. This had been done by the instrument maker at Dr. Wright's suggestion.

Case of Lesion on Anterior Surface of Gum.

Dr. Myles presented the patient, a man born 1841.

In the early spring of 1896, J. H. S. presented himself to a dentist, the best in his place of residence, for a diagnosis and treatment of lesion on the anterior surface of gum situated directly about the

exit of the two last molar teeth of the right upper maxilla. The dentist was informed of the fact that the trouble had been in existence some two months or more. After an examination of the part, teeth, etc., the dentist expressed the opinion that the cause of the trouble was neuritis, which probably the removal of the teeth would overcome or relieve—this was done, but relief from the trouble not following, the dentist suggested that probably a spicula of bone consequent upon fracture of the alveolar process was imbedded in the tissue, and attempted its removal; not finding the spicula, he, however, having opened the cavity of the process in its attempted removal, he pared off the sharp edges of the process with bone forceps which he thought might be a source of irritation and inflammation. In about a month's time the dentist was abandoned by J. H. S., the condition of his mouth not having improved, and presented himself to a specialist on eye, ear, nose and throat diseases. This gentleman, whom we shall call Dr. A. was of the opinion from the beginning of his observation up to the time of his death, which occurred in February, 1899: That the disease was benign in character, and that it had its origin in a known uric acid diathesis. His treatment was both local and constitutional—locally he applied within a period of twelve months solutions of nitrate of silver, varying in strength from 10 to 60 grains to the ounce. No apparent benefit was derived from this treatment, the disease very slowly and gradually took in the least bit of additional territory. Now having encroached on buccal mucous membrane. In May of 1897, J. H. S. consulted an eminent surgeon in Philadelphia, regarding the nature of the ailment, and as to its relief. The surgeon, who will be known as Dr. B., expressed the opinion that the lesion had the appearance of being benign in character, but what to name it, he was at a loss. He said, however, that inasmuch as it had not yet yielded to local and constitutional treatment he would advise excision. This was done the following day, and Dr. B. was requested to preserve the excised piece and have the pathologist of the University of Pennsylvania report on same, which was promised. But the report was never made, owing, it was said, to the neglect of Dr. B.'s assistants to properly attend to the matter as they were expected to do.

The excision accomplished nothing in so far as related apparently toward the progress of the disease. From June, 1897, to June, 1898, it was thought by several of the profession in the place of residence of J. H. S., to be purely of a benign nature, notwithstanding there had been no improvement in the neoplasm, but rather an extension over the gum and mucous membrane of the hard palate. The treatment during this year embraced a repetition of past treatment—

constitutional treatment comprised an anti-uric acid as well as an anti-syphilitic one, owing to a presumptive history of syphilis forty years prior to the local manifestation in his mouth. This treatment consisted of mercury and iodide of potassium combined, for two or more months, followed by iodide of potassium in doses reaching 75 grains three times a day and lithium citrate in 10 grain doses three times a day. There was no apparent benefit to be noticed from this treatment. In June, 1897, whilst on a visit to Denver, during the annual meeting of the American Medical Associations, J. H. S. was presented to several of the most distinguished of the profession. Dr. C., of Cincinnati, thought the disease bore some resemblance to ouidium albicans; Dr. D., of Philadelphia, said he had never seen anything like it, and asked others present what it was. Dr. E., of California, specialist on skin diseases, thought it ichthyosis; Dr. F., of Denver, specialist on skin diseases, did not know what it was. Dr. G., of Philadelphia, specialist on skin diseases, pronounced it a case of leuko plakia buccalis. He suggested a line of treatment without inquiring as to the history of the case, or the physical condition of the individual—past or present. Reaching a conclusion from a standpoint, based upon the leuko plakia present upon the anterior buccal mucous membrane of the lower lip at its junction with that of the gum. In the autumn of 1898, the disease not having improved Dr. A. thought it was probable that a removal of the lesion might be accomplished through the aid of the galvano-cautery. This was practiced, but without any apparent benefit. In May, 1899, J. H. S. visited New York, and requested a diagnosis from the following gentlemen: Dr. H., surgeon; after careful examination thought the disease of neurotic origin. Dr. I., specialist on skin, thought the disease lupus-erythematosus. Dr. J., specialist on skin, did not know what it was unless it was founded on the leuko plakia. Dr. K., specialist on the skin, thought it Riggs' disease. Dr. L., specialist on skin, did not know what it was, thought it looked like lupus-erythematosus. Dr. M., specialist on skin disease, did not know what it was, but thought it due to digestive disturbance. Dr. N., specialist on skin, thought it epithelioma, based upon microscopical examination of pathological specimens.

J. H. S. on his return home in May, visited Cincinnati, and whilst there, called on Dr. O., specialist on skin diseases, who expressed the opinion that the disease was lupus vulgaris.

November, 1899, J. H. S. again visited New York, with the object of obtaining, if practicable, a satisfactory diagnosis. He has called upon most of the gentlemen seen on the previous occasion of his visit, and in addition many others. Apparently, he is not much

nearer a diagnosis than when he was last here. Dr. H. holds to his original opinion. Dr. I. holds to his original opinion. Dr. K. holds to his original opinion of Riggs disease. Dr. L. was not seen again. Dr. M. held to his original opinion. Dr. N. has taken another pathological specimen for microscopical examination, and thinks as the result of his investigation thus far the trouble is lichen planus.

This list of skin specialists comprise those seen in May, 1899, and in addition, the following opinions have been expressed by other skin specialists of this city on the occasion of this visit.

Dr. O. thought the disease more nearly like lupus erythematosus than anything else.

Dr. P. said it bore no resemblance to lupus erythematosus or to epithelioma. He did not know what it was, but thought that it might be an osteo-sarcoma.

Dr. Q. said it has neither syphilis nor lupus erythematosus and he would not say what it was short of a pathological examination with microscope. This specimen he removed, but has not reported thereupon.

Dr. R. thought syphilis might explain the whole phenomena, but after examination and re-examination, and some reasoning, wound up by saying he did not know what it was.

Dr. S., specialist on nose and throat, after a patient and pains-taking examination pronounced the disease of neurotic origin.

Dr. T.. a neurologist, declared the disease not of neurotic origin. Dr. Beaman Douglas said that examination had led him to think that the diagnosis rested between a neurotic disease and a lupus, and he could not make the diagnosis more closely without microscopical examination. He would not be surprised if there were some tubercles on the border of the lesion. He felt positive that the growth was benign—either neurotic or a very chronic lupus.

The patient then presented a report, just received from the pathologist. The latter stated that he was unable to classify the lesion under any of the recognized heads. The specimen resembled more a typical fungous epithelioma than anything else. He had not been able to find any evidence, however, of epithelioma. Lichen planus or lupus erythematosus might be suggested, but the objection to both was that the appearance of the mucous membrane was not typical, and the skin was free. At present there was no evidence of malignancy, and the pathologist felt sure that neither the nerve lesion nor a syphilitic virus was a factor in the case. The speaker said that the specimens removed last May had borne a close resemblance to epithelioma.

Dr. W. K. Simpson said that he had seen a very similar case, ex-

cept that the lesions had not been quite so white. The lesion had been on the outside of the gum and on the cheek, and had eventually appeared on the hard palate. It had started as a so-called epulis. After a period of three or four years the glands under the jaw had enlarged, and on being excised they had shown epitheliomatous tissue, the patient subsequently dying from epithelioma.

Dr. C. G. Coakley said that it would be interesting to know whether the disease involved the antrum. The pathological examination was often disappointing when only small areas of tissue were submitted to the pathologist for examination.

Dr. Myles said that he had seen one case presenting a somewhat similar appearance, which had proved to be due to trophic changes in the nerves. Ultimately the patient had recovered. A woman from Texas had presented a similar lesion to the white false membrane, only it had been bilateral and had existed, from time to time, usually with two weeks' intervals, for two years. No diagnosis had been made in that case, although she had been seen during the past summer by a number of physicians at the various clinics.

A Study of the Application of the Galvano-Cautery in the Nose.

Dr. Beaman Douglass read this paper. He said that while at one time the electro-cautery had been very popular it had gradually fallen into disfavor, and was now but little used by specialists. To ascertain the comparative merits of the cautery method and the knife incision, a series of specimens had been obtained and examined microscopically. The effect of the cautery knife was to form a cone of burned tissue, and the effect of the cautery was greatest at the periphery of cone. The subepithelial hyaline membrane seemed to be especially and extensively affected by the cauterization. In some of the specimens the tissue in the surrounding area, away from the cauterized part, had been affected by the heat. These appearances were in marked contrast with those presented by the knife incision. No brown or amorphous matter was found in the incision specimens. There was no sloughing tissue. The cut was clean and sharp, and there was no evidence of the surrounding tissue having been affected. Specimens taken one hundred hours after operation and cauterization were next examined. The blood vessels in the neighborhood of the burn contained more blood than those at a distance from the cauterized area, and there appeared to be a few *thrombosed vessels*. This was a very important fact, since it shows a serious result in a tissue removed from one cautery point and from our observation. Repair had apparently begun, and the absence of leucocytic infiltration proved that there was no inflammation present. In another specimen, taken 360 hours after the cauterization, the new tissue was

already filling up the gap. After complete healing only connective tissue could be found. No contraction was visible. The cautery should never be used superficially or over a large area, but should be rapidly introduced into the deeper structures, and never drawn forward or backward. At the moment of contact with the membrane the cautery point should be scarcely heated at all. The ideal theoretical cautery point would be a stiff wire loop used as a knife, the old familiar cautery knife being discarded. The old method of linear cauterization should be abandoned, because this destroys, first, the epithelial layer and then the deeper structures down to the bone. The object of the cautery was to reduce the hypertrophy and disturb the surface as little as possible. The cautery point should be repeatedly introduced at intervals of about one-quarter of an inch. On the septum a single puncture should be made—in fact, the cautery should only be used in dilatation of the venous sinuses. In hypertrophy of the inferior turbinate several punctures should be made in a circular direction. The middle turbinate should rarely be cauterized at its posterior end. He believed that mistakes in diagnosis, together with the excessive use of such a powerful instrument, were chiefly responsible for the disfavor into which the electro-cautery had fallen. From the microscopical appearances already mentioned, it would seem that the redness and swelling so commonly observed after cauterization were not really due to inflammation, but simply to congestion and edema. The ordinary electrode evidently produced a thick slough in which the central tissues were not entirely destroyed; hence the use of such an instrument might very easily lead to sepsis. The upper nasal region, the nasal roof, the ethmoid region, the outer nasal wall and the middle turbinated body, except its anterior and posterior ends, should never be approached with the cautery, because of the difficulty of limiting and controlling its effects within safe and proper limits. Owing to the peculiar edema following cauterization this method should not be used about the uvula, faucial pillars, in the arytenoid region or on the glosso-epiglottal fold, as here marked edema would be harmful. The cautery was a powerful agent for good in selected cases, but should only be applied by experienced hands. The first general indication for its use was that it should be applied to soft structures. It would accomplish the best results on tissues having chiefly round cells. It was best used on tissues the seats of chronic congestion rather than on those that had gone on to marked hypertrophy or a polyp formation. In polyp formation all methods which do not destroy the periosteum were futile to prevent the return of the polyps, and it had been seen that

the cautery was not applicable to the regions where polyps chiefly develop. In malignant growths the cautery should never be used.

Dr. O. B. Douglass said that a dozen years ago he presented to this Section his method of using the dynamo current in place of the battery for all nasal and other electrical work. It was the first successful use of that current, and the apparatus is still in working order in his office. But he believes there are better methods for operating in nearly every case, and he had seen worse effects from the cautery than from any other method of nasal treatment. He could not approve of its general use, though it might be serviceable at times in the hands of experts. He considered the cautery even more dangerous than the method of injecting acids into the tissues. He deplored the fact that the galvano-cautery has come to be considered an essential part of the equipment of every tyro in nose and throat work. The country practitioner, if he makes any pretense to this department of surgery, has his cautery ready for action and begins firing whenever he imagines that an enemy—"the catarrhal microbe"—may be lurking in the dark and unexplored recesses of a nasal cavity. This practice—the universal use of the cautery in the nose—should be condemned by this Section of the Academy, and by all who know its possibilities for evil.

The paper of Dr. Douglass presents some new points, but on the whole emphasizes the need of caution by unskilled surgeons and in using red-hot platinum so near the brain—in the clearing house of every organ of special sense.

Dr. Berens agreed with the last speaker regarding the abuse of the cautery. He objected to its application to the base of the tongue, as he had known it to result in painful cicatrices, or in small and very annoying mucous cysts. At the base of the tongue its use should be limited to the destruction of "throat piles." For the faucial tonsil, where hemorrhage was not feared, the knife was to be preferred. In a few nasal conditions the cautery was useful, but the knife would be found equally good except where there was an excessively vascular growth. The reader of the paper had not stated what degree of heat had been used in the case from which his specimens had been taken.

Dr. T. J. Harris said that many of those present had been employing deep cauterization, destroying as little as possible of the surface membrane. He could not agree with Dr. O. B. Douglass or Dr. Berens, for he had found the galvano-cautery exceedingly useful in his practice. That the cautery had been abused could not be doubted, but that should not be a good reason for specialists discarding it. Within the last few years he had not been able to find re-

ports of serious results following the employment of the galvano-cautery.

Dr. Quinlan said that he believed he had been the first in this city to report a fatal case of electro-cauterization of the middle turbinate bodies. The cauterization has been done very lightly, yet the patient so succumbed in seventy-two hours of basilar meningitis. Lennox Browne and Ziem had reported other casualties following its use. He thought that rhinologists should collectively decry the *common use* of the galvano-cautery in the cavity of the nose. The reaction above the floor of the nose was very severe, and might very easily extend into the cranial fossa. One of the worst hemorrhages that he had been called upon to treat had followed the use of the galvano-cautery. If the cautery were applied to the masses at the base of the tongue adhesive bands were apt to form and sometimes we leave the patient worse than before.

Dr. Simpson asked the last speaker if the same dangers did not attend the use of other caustic applications, such as acids.

Dr. Quinlan replied in the negative.

Dr. Holbrook Curtis said that he had already spoken very forcibly against the use of the galvano-cautery on the cartilaginous septum. He might employ it on an inferior turbinate hypertrophy, but nowhere else. For about fifteen years he had been using acids to the exclusion of the cautery, and had never had any bad results follow the use of the monochlor-acetic acid.

Dr. Freudenthal said that it could not be denied that disastrous results would follow the use of the cautery, even though the operation had been done with modern surgical precautions. He now used the cautery very rarely, and wished others would follow his example in this respect.

Dr. Myles said that he did not think any cautious person would use the cautery without great caution on the middle turbinate, but it was certainly very useful on the inferior turbinal. Much depended upon the size and thickness of the electrode and the manner of using it. He had been using the suprarenal extract combined with cocaine, and a very small electrode. The contraction produced by the suprarenal extract allowed of using a higher degree of heat without the annoyance from hemorrhage. This, of course, gave a cleaner and sharper slough of the tissue. There should be very little reaction under these circumstances unless the bones were near each other or the periostium was injured. He now never uses the electro-cautery knife to burn away the posterior tip of the inferior turbinal, but preferred the electric loop or cold snare.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

(Continued from Page 365.)

Pneumo-Massage Under High Pressure—P. J. MINK (Zwolle).

The chain of ossicles must be considered as a lever with the membrana tympani and the membrane of the oval window (?) at its distal end. It is by this intermediary that the atmospheric air is placed in communication with the labyrinthine fluid.

The mobility of this intermediary, acting as a unit, exercises a predominant influence on the hearing. When the ossicular chain is stretched by the tension of the membrana tympani a considerable elasticity of this portion of the conducting apparatus is already produced.

From a physical standpoint the mobility of this mechanism possesses a value called the "Co-efficient of elasticity."

The decrease of mobility corresponds to an increase of this elasticity. The task imposed upon the aurist, where the transmitting apparatus is impaired, is to increase the mobility of the parts and thus decrease the "Co-efficient of elasticity."

To do this the general plan of massage has been that of an alternate rarefaction and compression, applied to the membrana tympani. This principle is a thoroughly rational one if we keep in mind that the massage movements must "exceed the limit of elasticity." It should be understood that this property of elasticity possessed by the drum membrane and ossicles must be overcome in order to obtain the greatest possible benefits from pneumo-massage.

Pneumo-massage as usually applied does not take this point into consideration, and from a mechanical standpoint, therefore, has heretofore not been applied to its fullest possible extent. The favorable results following massage are due mainly to its influence on the impaired mechanism and the rigidity of the ossicles.

A force is necessary to first draw the chain of ossicles tense in order that the entire transmission apparatus may be brought within the influence of the massage. It is our purpose, therefore, to draw the drum membrane and ossicles to a constant tension by pneumatic pressure to the "limit of elasticity" and thus apply an alternate compression and rarefaction constituting the massage of these parts.

To determine the value of this technique, I have observed the results in a series of cases where the pneumatic pressure has been

raised in a slow and gradual manner as here described, with the following results:

1. Only a low pressure is tolerated by the normal ear without painful sensation.
2. Where the sound conducting apparatus is impaired, higher air pressure is comfortably borne.
3. The only exceptions to these rules are the various forms of acute inflammation, exceptional cases of attic suppuration, and atrophy of the malleus.
4. In cases of middle-ear sclerosis constant and increased pressure is always tolerated to a greater degree than in the normal ear.
5. The close relation existing between the degree of sclerosis and the amount of pressure tolerated may frequently help to verify the diagnosis.

As the result of these observations it may be admitted that the painful sensations of this massage procedure may determine the "limit of elasticity" of the sound-conducting apparatus.

The treatment which I have instituted is a simple and direct application of these principles.

A reservoir of air communicating with the ear by means of a rubber tube tightly fitted into the auditory canal, is compressed in a slow and gradual manner by the action of a screw. To one side of this apparatus a manometer is attached; the other side is supplied by a small pear-shaped rubber bulb.

The screw is turned, admitting an air current into the ear until a painful sensation in the interior of the ear is produced.

Close attention must be paid to the application and the amount of pressure applied by this apparatus. Too strong pressure of the rubber bulb will be harmful, while on the other hand, if the pressure is too light it will not be effective. By paying strict attention to the sensations experienced by the patient many harmful results may be avoided. A pronounced hyperemia of the membrana tympani is also observed, but this, however, is of little consequence. The time of application and the frequency of alternating compression and rarefaction of this apparatus depends upon the character of the case.

The results which I have always obtained from this method have been very encouraging, and the subjective noises in the ear and also the hearing of the patient have been materially improved.

These results surpass by far those which I have been able to obtain by any other methods.

In the application of this technique I would advise the greatest delicacy and care.

Accoustic Exercises for Deaf Mutes—A. COSTINIU (Bucharest).

For these exercises the voice is used and also a variety of instruments (trumpet, drum, etc.) The limit of the hearing distance for these is from 20 to 30 meters. The method employed is similar to that described by Urbantschitsch. The speaking voice is used in varying intensities. Hearing tubes are seldom employed as they are found to change the quality and character of the transmitted voice.

These exercises are undertaken by different members of the family to obtain the advantage of a variation in the voice for the patient.

In beginning these exercises the patients are drilled on one or two vowels per sitting; these sittings are repeated two or three times a day each of fifteen minutes' duration. When the patient gives evidence of hearing the vowel clearly and can repeat it distinctly, other vowel sounds are added; then follow consonants, monosyllables and finally words and phrases. During these exercises the instructor sits at the side of the patient so as to accustom his hearing without looking at the speaker. When the patient has become familiar with lip-reading, the exercises are conducted so that the lips and mouth of the instructor cannot be seen.

When the patient is familiar with several vowel sounds before these exercises are undertaken a confusion in the interpretation of these sounds frequently occur. To overcome this the individual vowel sounds which are badly heard are persistently repeated until the hearing becomes more distinct.

It occasionally happens that a patient who has progressed even to the point of hearing words and sentences may suddenly in the course of twenty-four hours have a sudden relapse. Under these conditions it is necessary to begin again with the individual vowel sounds and progress as before.

Women take more interest in these exercises than men.

Certain nervous phenomena are occasionally observed and these gradually disappear as the exercises are continued. All of my patients are cases of acquired deafness and careful testing indicates some degree of hearing for the spoken voice. Where these traces of hearing do not exist the results of this accoustic training are much less satisfactory than in patients who still possess some remnant of voice hearing.

Together with these exercises catherization of the Eustachian tube and Puliterization is also undertaken.

In three of these patients I have operated for adenoid vegetation.

As the result of my work I can report ten patients who hear the spoken voice at more than one meter and the instruments at more than forty-five meters and who are able to hear and repeat entire phrases. Great observation is necessary both on the part of the instructor and of the patient and at a period of time varying from ten months to two years and even more, before satisfactory results can be obtained. Even then it remains to be seen whether these results are permanent.

**Intra-Tympanic Injections of Pilocarpine in the Treatment of
the Middle-Ear Sclerosis—FISCHERICH (Weisbaden.)**

The author reports satisfactory results following the injection of pilocarpine into the tympanic cavity in 120 selected cases of well-marked middle-ear sclerosis treated during the past four years.

The method, in brief, is the following: A 2 per cent aqueous solution of pilocarpine hydrochlorate is injected into the tympanic cavity by means of a flexible tympanic catheter passed through a metallic Eustachian catheter well up into the tube. He begins with 6 to 8 drops, gradually increasing to 10, 12, 14, 16 drops; the increase in quantity of the injecting fluid depends on: (1) The stage of sclerosis; (2) the absorption capacity of the tympanic mucous membrane; (3) the reaction, as evidenced by each individual patient.

Thirty to forty daily injections constitutes this course of treatment. In long-standing, chronic cases forty to fifty injections may be made.

The results in many cases have been surprisingly good, even after all other therapeutic measures have failed. The average improvement noted was a 2 to 10 fold increase of the hearing capacity prior to instituting this treatment.

The author observes the following data in the application of this method :

1. Hearing tests should not be made immediately following the course of injections, but after an interim of eight days, when all fluid and moisture in the tympanic cavity has been absorbed.
2. A further improvement in hearing is frequently demonstrable some time after the injections have been discontinued.
3. The improvement following a first course of injections is not always of a definite character, as a later course of such treatment frequently results in further improvement.

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OUR NEW YEAR'S PURPOSE.

In announcing our intention to make THE LARYNGOSCOPE hereafter more entirely a journal for specialists, we would convey no change of principles, only a nearer step to the fulfilment of an ever-cherished plan. That purpose, to so accurately and completely reflect and record the advanced scientific thought and progress of the world in our field as to be to all practitioners of oto-laryngology a bond of unity in the work and indispensable to their practice.

THE LARYNGOSCOPE we have labored to make the most finished fabric of our heart and hands. The growth of a great work sometimes typifies stages in the mental development of man. A traditional three decades is allowed to genius for trial and training before it demanded its full fruition. In its short life of less than four years, THE LARYNGOSCOPE has passed through the formative periods of childhood and adolescence, and is to-day in clear sight of its ideal.

The living up to our expansive aspirations will be to us not a matter of resolutions, but results. The realization of our plans means more space, for which we have provided. It is intended that our Bibliography shall include every article published upon otolaryngology in the journals of the world, and with this end in view there have recently been added to our collaboratorial staff several representative names.

Recognizing the importance of society reports to all active workers, especially to those located in smaller towns where clinical material is limited, we have secured competent reporters, and will publish the proceedings of all societies devoted to Otology, Rhinology and Laryngology.

Original articles will occupy a no less important and conspicuous place than heretofore, representing the best thought of acknowledged teachers and writers.

A stream does not rise higher than its source, and not inappropriate to science are the faces of scientists. A feature that cannot but add interest and value to THE LARYNGOSCOPE will be our portrait gallery of passed distinguished Otologists and Laryngologists.

PIONEERS IN LARYNGOLOGY AND OTOLOGY.

THE LARYNGOSCOPE has arranged to present its readers excellent half-tone portraits, suitable for framing, of the passed laryngologists and otologists whose fires we fan. At short intervals will appear Garcia, who "led the way;" Turck, the interesting pioneer; Mackenzie, the resourceful therapist; Meyer, friend of the children, and Moos, a savior of many sweet sounds. These are the forerunners, others will follow.

SPECIAL ANNOUNCEMENT.

In the development of our plan for the appearance of an increase of matter in our columns and our reliance upon a more limited class of practitioners, it becomes necessary to raise our subscription price from \$2 to \$3 per annum. Owing to the general rise in prices in America during the last two years the cost of publishing THE LARYNGOSCOPE is already much more than it was. An increase in the size of the journal will materially add to its present expense.

In this connection we beg to remind our readers that THE LARYNGOSCOPE is still offered at a lower subscription price than any journal of its character and position in this field of medicine.

In our worthy endeavor to give to otologists and laryngologists the best for the least, we bespeak their appreciation and earnest support.

ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by
FAYETTE C. EWING, M.D., St. Louis,
with the collaboration of the
EDITORIAL STAFF.

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.
Authors noting an omission of their papers will confer a favor by informing the Editor

I. NOSE.

Trachoma of the Conjunctiva and its Relation to Diseases of the Nose—Dr. Ziem, of Dantzig—*Annals Otol., Rhinol. and Laryn.*, February, 1899.

This article, an elaborate discussion of bad hygiene, climatic and telluric influences in producing and stimulating trachoma, is mostly of interest to the ophthalmalogist. The author traces an "intimate connection between trachoma and nasal catarrh." He believes that "many patients with one-sided trachoma will be found to have a nasal catarrh on the same side, and not unusually the localisation of trachoma in either the upper or lower fornix will be found associated with either suppuration of the frontal or superior maxillary sinus so that the inflammation must have been extended by means of the vascular anastomosis of the naso-frontal or infra-orbital vessels to either the upper or lower lid." F. C. E.

Cerebro-Spinal Rhinorrhea—Editorial *British Med. Jour.*, September 23, 1899.

The writer of this article acquiesces in the claim of StClair Thomson, who affirms, in his recently published *Monograph*, that the cerebro-spinal fluid may escape spontaneously from the nose, most likely through the peri-neural sheaths of the olfactory nerves. The objection to this route is that in the case described by Thomson there was no diminution in the sense of smell as might be expected from the long soaking of the nerves in the fluid. Eight cases have been unearthed from old literature that are declared to have been this affection though unrecognized by their reporters. The symptoms are long continued and constant escape of a perfectly clear fluid, free from taste, smell and sediment, with absence of mucin and albumen, and reducible by Fehlings test. Local treatment is ineffectual. F. C. E.

Deviation of the Nasal Septum and Its Operative Treatment—

W. B. SHIELDS—*Med. Mirror*, Vol. x, No. 7, July, 1899.

When the septum is thin and movable, in the author's judgment, the Asche operation will be a failure, the deviation returning sooner or later on account of the pliability of the septum; of the numerous operations he thinks the Asch or Hajek's should be preferred. He has seen both Asch and Hajek operate, and prefers Hajek's, because, after the incisions are made through the septum, its lower incised edge is pushed into the floor of the nasal cavity of the greater size or concavity, the result of which is to obviate any danger of the deviation recurring in after years as it is claimed by many occurs after the Asch operation. The operation of Hajek is then described, the mode of procedure in the author's opinion being practically the same as in Gleason's operation.

[Gleason's operation has been fully described by its author in THE LARYNGOSCOPE, and it appears from Dr. Shields' detailed description of Hajek's method that it is not entitled to be called by the name of the latter, as it differs in no way from Gleason's except that a knife instead of a saw is used.—ED.]

EATON.

On the Use of Rubber Splints in the Treatment following Intra-

Nasal Operations—J. P. BROWN—*Annals Otol., Rhinol. and Laryn.*, May, 1899.

Approves the use of rubber splints (advocated by R. Lake, *Jour. Laryn., Rhinol. and Otol.*, August, 1898), after septal excision to promote smooth and equable healing. These splints are made from thick rubber sheeting, are adaptable, smooth and can be cut to any size, shape and thickness, and can be kept aseptic. Solid splints are preferable to perforated ones. The latter do not insure a respiratory passage since they fill up with secretions rapidly, and they have the further disadvantage of promoting sepsis. F. C. E.

Some Points on the Diagnosis of the More Common Forms of

Nasal Obstruction—C. N. COX—*Philadelphia Med. Jour.*, July 29, 1899.

A concise discussion of the causes, and diagnosis of nasal obstruction, designed especially for the general practitioner.

F. C. E.

The Correction of Nasal Deformities by Subcutaneous Operations

—J. O. ROE, Rochester, N. Y.—*The American Medical Quarterly*, June, 1899.

A rather lengthly article, profusely illustrated, but lacking the purport of its title in failing to enlighten the reader upon the essential feature of the paper, namely, the technique of the operation. The author classifies deformities of the nose as follows: of the bony portion, vertically, convex and concave; laterally, spatulated and deflected; of the cartilaginous portion, tip, excessive or deficient tissue and deviation; wings, collapsed and expanded. STEIN.

The Forms and Treatment of Chronic Rhinitis—R. C. KENNER
—*Med. Mirror.*, Oct. 1899.

EATON.

Paroxysmal Sneezing and Allied Affections—J. B. BALL.—*The Lancet*, February 11, 1899.

This is a general consideration of the subject, to a great extent founded on the personal experience of 112 cases. One of these patients once counted the number of sneezes, and found that she sneezed 294 times consecutively. The number of pocket-handkerchiefs used may amount to twelve or thirteen a day. Exactly one half, *i. e.*, fifty-six, of the author's patients suffered from definite asthmatic attacks. Of the 112 patients there were fifty-nine males and fifty-three females, so that the sexes are pretty evenly divided. The majority of patients presented themselves between the ages of twenty and forty, but the disease as a rule develops in the earlier period of life, although it may begin at any age. After considering the local conditions which sometimes accompany the affection, and its general progress, he reviews the treatment by the galvano-cautery, chromic acid, or surgical measures for intra-nasal treatment. Of internal treatment he mentions quinine, belladonna, arsenic, and iodide of potassium. He frequently employs a pill containing 1 grain of sulphate of quinine, $\frac{1}{16}$ of a grain of iodide of arsenic, and $\frac{1}{12}$ of a grain of extract of belladonna, to be taken three times a day, the arsenic and belladonna to be increased according to tolerance. He also employs cocaine, menthol, and menthol-camphor intra-nasally.

STCLAIR THOMSON.

Review of Work in the Domain of Nose, Throat, Larynx and Ear, Taken from Recent Polish Literature—R. SPIRA—
Wiener Klin. Rundschau, July 16, 1899.

In this review many interesting papers and cases are recorded. A. Banrowicz (*Przeglad lekarski*, 18, 19, 20, 1898,) reports a case of rhinoscleroma which has been under observation since 1895, and which during the course of the disease presented repeated stenoses of larynx, trachea and bronchi. Curetting and dilatation resulted in a cure. Seven cases of stenosis after croup (two without tracheotomy) were caused by thickening of the tissues below the cords. Galvano-cautery and dilatation were the remedies, followed, if necessary, by laryngo-fissure and thorough removal of scar tissue.

Two cases of bronchial stenosis from pressure of mediastinal glands after pleuritis. Three cases of laryngeal stenosis as a result of syphilis. Of four cases of laryngeal carcinoma, one presented the picture of laryngeal perichondritis, another was a case of carcinoma keratoïdes polyposum, at first attacking only the left cord. Excision, recurrence and invasion of the surrounding tissues. One case of bleeding polyp of the septum. On the anterior upper part of the cartilaginous septum was situated an uneven, dark red, elastic tumor attached by a short narrow pedicle.

Severe epistaxis had occurred several times. Rhinitis sicca was present; and the hemorrhages had the effect of rendering the nose temporarily pervious; whereas the opposite condition was usually present. Twenty-one cases of peritonsillar abscess, of which six were in the posterior pillar. The latter extended down to the aditus ad laryngem. Treatment, warm applications and gargles—no incisions.

In one case the inflammatory exudate extended deep into the larynx, and caused immobility of the affected half, but was eventually absorbed without any sequelæ.

Sedziak (*Kronika lekarska*, 15, 16, 17, 1898,) reports a case of nasal sarcoma treated intranasally. The result was such as to warrant us in being slow to operate by opening the nose externally.

A. Goldberg (*Medycyna*, 14, 1898), a paper on the action of the larynx during whistling. His experiments resulted in establishing the fact that there is a correspondence between the scale of the voice and that of whistling. For instance, one who possesses a vocal scale from *do* to *fa* cannot whistle a note lower than *do* nor higher than *fa*. We must, therefore, conclude that in whistling a certain note the vocal cords and the larynx assume the same position that they do when the note is sung. If, therefore, the inability to whistle does not depend alone on the mouth, but also on the larynx, it cannot only be ascribed to facial paralysis but also to laryngeal disease. In the case of a hystero-epileptic who had lost her voice and was unable to cough, the author found that the power to whistle was also lost, although the function of the facial nerve was intact. Goldberg concludes that he is able to add a third symptom to the picture of paralysis of the recurrents in addition to the two which are already well established. That is, not only is the voice and the ability to cough lost, but the patient is also unable to whistle. He would also expect to see this inability to whistle in cases of other diseases of the larynx which are accompanied by loss of voice.

Stanislaus Cieglewicz (*Przeglad lekarski*, 1, 1898,) reports very favorable results from a 2 per cent spray of ichthyol in subacute catarrhal conditions of the laryngeal mucous membranes. He has succeeded with this where all other remedies failed. The tormenting cough stopped and the hoarseness diminished rapidly.

J. Sedziak (*Kronika lekarska*, 4 and 5, 1898,) reports on 235 cases of peritonsillar abscess. The conclusion is reached that this affection is favored by adhesions between the tonsils and the pillars on account of the retention of the tonsillar secretion. Nine cases of abscess of the lingual tonsil are included in these figures.

Jan Sedziak (*Gazeta lekarska*, 21 and 22, 1898). This paper is written to emphasize the importance of a laryngeal examination in all cases of suspected aortic aneurism. There are many cases where a paralysis of the inferior laryngeal is the only symptom of a latent aneurism. Therefore any case where hoarseness alone is the symptom should be subjected to a close examination. This will also reveal many other conditions which may help to a diagnosis; for instance, compression or displacement of the trachea,

prominence and pulsation of its walls, etc. The method of Oliver may also be used in this connection. The trachea is seized between the thumb and forefinger just below the cricoid cartilage; it is then slightly raised; in case of aortic aneurism one will feel the larynx and trachea slightly depressed at each systole.

D. Guranowski (*Przeglad Chirurgiczny*, B. ii, H. 1, 1898,) reports the case of a man with a double external auditory meatus. The patient came complaining of a sudden attack of deafness. Upon examination Guranowski found the external meatus divided into two canals by a partition composed of a thin lamella of cartilage covered with skin which extended obliquely from above posteriorly downward and forward. The anterior of these canals had a blind ending about 7-8 mm. from the opening, while the posterior canal was the true auditory meatus. This latter was occluded by a hard mass of cerumen. Upon its removal the drum-head was found to be normal and the hearing was restored. The external ear presented no anomaly.

VITTM.

II. MOUTH AND NASO-PHARYNX.

Papilloma of the Soft Palate—R. MCKINNEY—*The Memphis Lancet*, October, 1899.

The growth was the size of a pea attached to the soft palate at the base of the uvula, and was removed with a pair of curved scissors and a long nasal dressing forceps. It had the peculiar raspberry-like structure characteristic of papilloma. Microscopically it showed the papillary ingrowth of the fibrous stroma.

LEDERMAN.

The Radical Operation of Bony Obstruction of the Choanae—

T. S. FLATAU, Berlin—*Wiener Klin. Rundschau*, October 1, 1899.

The principal point in this operation seems to be the preliminary excision of the lower turbinal. When this is thoroughly accomplished, there is ample space to enable one to see to placing the chisel properly. It should be said that in this case (as may frequently occur) the bony plate was far too massive to admit of its removal by any other means than the chisel. After removing the bony plate, which was not accompanied by much hemorrhage, the author found that he had not cut through the mucous covering on its posterior aspect. This was done with scissors, but the hemorrhage was so profuse as to necessitate three or four days tamponing. During the act of chiseling the author kept his forefinger in the post-nasal space to protect the soft parts. He suggests that, under similar circumstances, it might, perhaps, be easier for both patient and physician, simply to fill the post-nasal space with a thick, soft tampon during the operation instead of using the finger.

VITTM.

Late Consecutive Oro-Pharyngeal Syphilis—LEWIS S. SOMERS—*Internat. Med. Mag.*, July, 1899.

The writer gives a detailed history of three cases which illustrate the varied and interchangeable manifestations of syphilis of the oro-pharynx. The special character of the symptoms appearing in the mouth and throat are pointed out.

DETWILER.

Tuberculosis and the Throat—W. F. STRANGWAY—*The Medical**Age*, September 25, 1899.

The author speaks not only of tuberculosis of the throat, but also of the throat in patients threatened with active tubercular trouble, or who have tuberculosis in other organs, but no visible infiltration or ulceration in the throat. He speaks of those cases where neither ulceration in the pharynx nor recognized infiltration is seen, but a peculiar pallor so out of harmony with other parts that no other disease can cause it. This pallor is striking in appearance, and should lead us to suspect a threatened attack of tuberculosis; likewise if we find a blotched appearance of the larynx.

With transient flushings, especially if the vocal cords do not approach each other in a normal manner, we should recognize a condition of serious omen to the patient.

These conditions may for years antecede the actual outbreaks of tuberculosis, and proper treatment may abort the threatened attack, hence these symptoms are of the utmost diagnostic value.

Active tuberculosis of the pharynx is met with very infrequently, and never without tuberculosis of other parts; indeed, it is generally a part of acute miliary tuberculosis, and is always fatal. The duration of life after this incurable malady starts is but a few months at most. Treatment is only palliative.

MACLEAN.

A Case of Complete Adhesion of the Epiglottis to the Base of the Tongue, Caused by Syphilitic Cicatrices, together with Some Observations on the Physiology of the Act of Swallowing—*BENJAMIN RISCHAWY—Wiener Klin. Rundschau*, July 9, 1899.

Report of a case where the adhesion presumably resulted from gummata situated on the base of the tongue. The cicatrical contraction of ulcerations in this situation would tend to draw the epiglottis forward toward the tongue. Swallowing, especially the swallowing of air, requires more of an effort than is normal, and when a solid substance is swallowed part of it returns and must be swallowed a second time. There is absolutely no trouble with food passing into the larynx. This latter fact has caused the author to make a very interesting résumé of the modern views as to the method of closure of the larynx during the act of swallowing. It seems to be the opinion that the larynx itself takes but little part in this process. The closure is effected by structures lying directly above it. These are: 1, a fatty cushion which is limited above by

the hyo-epiglottic membrane, posteriorly by the epiglottis itself, and anteriorly by the thyro-hyoid ligament; 2, the hyo-epiglottic membrane itself, and, 3, the base of the tongue. During the act of swallowing the hyo-epiglottic membrane and the base of the tongue become rigidly fixed; the fatty cushion is pressed against them by the rising larynx in such a manner that it can only spread out posteriorly where it is opposed only by a movable structure—the epiglottis.

The physiology of the act of swallowing may therefore be briefly given as follows:

The larynx rises to the hyoid bone, which latter is also elevated. In this way the fat cushion is compressed from above downward so that it drives the epiglottis downward toward the upper laryngeal cavity. The ary-epiglottic folds fit snugly along the posterior border of the epiglottis. At the same time the upper laryngeal cavity contracts until the vocal cords and the false vocal bands are in contact. The arytenoid cartilages also approach each other. Traction of the hyoid bone and the larynx forward underneath the tongue. A downward and forward motion of the root of the tongue so that the epiglottis lies in the glosso-epiglottic fossa, which has been drawn under the root of the tongue. Pressure of the fat cushion and the epiglottis against the base of the tongue so that they are driven into the upper laryngeal space like a stopper.

VITTM.

Tuberculosis of the Pharyngeal Tonsil—DR. LEON LEWIN—
Archiv für Laryngologie, Band ix, Heft 3.

This extensive paper begins with a review of the literature of the subject. The earlier views of the scrofulous nature of hypertrophy of the organ are mentioned, and many of the author's writing on the subject are cited.

The material examined is divided into two groups. In the first the endeavor was by all well known scientific means to ascertain how often a hyperplasia of the pharyngeal tonsil is the seat of latent tubercular processes. For this purpose 200 subjects were examined.

The second group consisted of pharyngeal tonsils removed post mortem from the tuberculosis. Among these were many where no hypertrophic process was present.

Long and careful analyses are made of this material, and deductions drawn in many directions. Of the 200 cases of hypertrophied tonsil ten were found to conceal tuberculous tissue. This percentage nearly agrees with that of all the published cases the author could find. These amounted to 905 cases with 45 cases of tuberculosis. His final conclusions are as follows:

1. According to our investigations, hyperplastic pharyngeal tonsils conceal tuberculosis lesions in about 5 per cent of the cases.
2. The tuberculosis is present in the so-called tumor form; it is characterized by the absence of surface indications of its presence—latent tuberculosis of the tonsils.

3. This "latent" tuberculosis may apparently be the first and indeed the only localization of the disease in the individual.
4. It is generally, however, associated with other tuberculous processes, generally of the lungs, which may however not have developed at the time the tonsil was operated on.
5. It is a comparatively frequent condition among those suffering from tuberculosis of the lungs.
6. It is found in the normal sized tonsil as well as in the hyperplastic. Whether it may cause hyperplasia by the development of some toxin is doubtful. It can however retard the normal involution of the tonsil.
7. Its part in the etiology of hypertrophy of the pharyngeal tonsil is unimportant.
8. By removal of the tonsil the disease may be removed, even though tuberculosis of the lungs be present. VITTM.

III. ACCESSORY SINUSES.

Diagnosis and Endonasal Treatment of Empyema of the Frontal Sinus—GUSTAVE SPIESS (Frankfurt)—*Jour. L., R. et O.*, November, 1899.

Local symptoms are not to be trusted. We must employ three methods, according to this writer, to make a diagnosis: (*a*) The examination of the nose. (*b*) Exploratory syringing through the internal opening. (*c*) Exploratory puncture from the interior of the nose is absolutely certain.

The results obtained from transillumination are rather doubtful as asymmetries occur frequently. Probing for the canal, even after copious application of cocaine, is a very difficult matter. The probes are easiest introduced when bent in a semicircle. A description of a method of probing and puncture with an electric drill is detailed. With the assistance of the X-rays the difficulties and dangers may be easily faced. The drill is watched through the Röntgen screen.

In chronic cases the endonasal opening and syringing should be first tried, and an external operation only employed if success is not obtained by the endonasal treatment, and when the patient insists upon further operation. The author cannot conscientiously advocate the external operation. LEDERMAN.

The Bacteriology of the Accessory Sinuses of the Nose in Diphtheria and Scarlet Fever—R. M. PEARCE—*Journ. Boston Soc. of Med. Sciences*, March, 1899.

Report of examinations of the nose in fifty cases of diphtheria and scarlet fever from post-mortem material of Boston City Hospital.

The conclusions are that infection of the antrum of Highmore is quite common in fatal cases of these diseases. The microorganisms usually found are diphtheria bacillus, pus cocci and pneumococcus.

The symptoms in these cases were not assertive enough to attract attention in life. The practical question is whether infection takes place as frequently in those cases which recover as in those which are fatal—if so, does it lead to subacute or chronic sinusitis? In view of its frequency in fatal cases the answer is likely that it occurs in cases that recovered, clearing up with no ill effect, or altering the lining membrane so as to make it an easy subject to chronic antral disease following acute nasal inflammation. The author believes infection of the antrum explains the persistence of diphtheria bacilli in the nasal discharge long after obvious symptoms have passed, not uncommonly found. Le Genore and Pochon (1895) obtained positive cultures from the nose fifteen months after nasal diphtheria.

F. C. E.

Chronic Muco-Purulent Catarrh of the Antrum of Highmore Simulating Post-Nasal Catarrh—A. J. BRADY (New South Wales)—*Journ. of Laryng., Rhinol. and Otology*, November, 1899.

The presence of pus in the middle meatus of the nose, when viewed from the front, and its reappearance after being wiped away on suspending the head, is one of the most evident signs of chronic abscess of the antrum. In the variety of antral disease mentioned by the author, pus is never seen in the anterior nares, even after inversion of the head. The patient complains of "catarrh of the throat." Post-nasal secretion causes him to hawk and expectorate. A bad odor in the nose exists at times. Muco-pus is seen in the naso-pharynx, and is found to issue from below the posterior end of the middle turbinal on one side. This condition often gives rise to a diseased state of lining membrane itself, which is apt to be judged the source of irritation.

Transillumination may not show the presence of existing antral disease in such cases. The writer mentions such a case. He prefers the engine and burrs to open the antrum, and favors the canine fossa as the point of selection.

M. D. LEDERMAN.

The Diagnosis and Treatment of Chronic Empyema of the Frontal Sinus—W. MILLIGAN—*Jour. L., R. et Otology*, November, 1899.

The difficulty attending an accurate diagnosis in these cases is the uncertainty as to whether the flow of pus, which is seen through the intra-nasal examination, comes from the frontal sinus or from one of the other accessory nasal sinuses. Secondly, the frequent absence of any local symptoms. The author considers the presence of pain or tenderness upon pressure, just under the supraorbital arch, over the floor of the sinus, a diagnostic sign. To elicit this symptom the finger must be introduced well within the supraorbital arch, and not merely under the arch, for in this manner pressure is brought to bear upon the floor of the sinus.

Transillumination is not a positive diagnostic factor, but with the existence of local symptoms its application may afford considerable assistance.

The treatment of this affection is a question which must be carefully considered. The cranial contents are in close proximity, and the danger of infection to these tissues must be borne in mind. These complications are not common, but are at times met with.

When no pain is present, and where the nasal drainage is good, palliative measures may be employed. If free drainage can be secured by means of anterior turbinectomy, or cauterizing the swollen mucous membrane this should be attempted. In some cases the sinus may be cleansed by means of a Lichtwitz's cannula. This the author believes is attended with some risk, and should be discouraged. In those cases where recurring attacks of pain, indications of cerebral irritation, failure of general health from septic absorption, neuralgic pains about the head or the back of the eye, or failing vision, we must consider the advisability of performing a radical operation.

The median incision affords a larger and unexampled field for inspection and subsequent treatment of the flow of the sinus, though the scar left is much more unsightly than the supraorbital incision.

LEDERMAN.

IV. LARYNX AND TRACHEA.

Treatment of Acute Laryngitis in Children—G. VARIOT—

International Clinics, Vol. 1, 9th Series, April, 1899.

In simple, uncomplicated forms of this disorder, steam inhalation is recommended as a most efficient remedy. It may be given by means of an inhaler or any practical substitute. A mustard foot bath should also be advised, and the throat painted with iodine and enveloped in cotton. If cough is incessant—preventing sleep—one of the best remedies is syrup of codeine, given in small and repeated doses. In more severe cases the front of the neck should be sponged with hot hot water.

If the case presents a spasmodic element in addition to the inflammatory condition, the treatment must be more methodical. The child should be placed in a spacious, light and well ventilated room, in which the temperature is maintained at from 15° to 18° C. (59° to 64.4° F.) and the air kept charged with steam. Some writers claim that the steam is more efficacious if some volatile disinfectant be added, and Goodhart recommends the use of a paste composed of creosote 3*i* and powdered gum arabic 3*ii* to which is added two fluid ounces of a 5% solution of carbolic acid, the whole being put into a vessel containing one pint of boiling water. Turpentine and tincture of benzoin are also recommended. The author, however, maintains that the benefit is derived from the steam alone, and has given up adding anything to the water

that is to be boiled. He believes that the saturated air alone, entering the larynx and air passages is enough to control the phrenoglottic spasm, and that it probably does so by loosening the mucus and facilitating its expulsion. He believes that in children in whom the voice is normal, and no false membranes are present on the vocal chords, the often violent spasm is kept up by the accumulation of mucus in the hypoglottic region—experiments having proved that stimulation of the mucous membrane of that region, similar to that caused by the presence of mucus, may go so far as to bring on tetanic occlusion of the orifice. The favorable effect of the steam is doubtless due also, in part, to its influence on the nerve terminations in the mucous membrane of the larynx, modifying the spasmody reflex.

Attention is called to this method as a good means of differential diagnosis between true and false croup. The hospital "vapor room" and the vapor tent are described, and while many advantages are claimed for them, it is admitted that they have their disadvantages, especially during the hot months, when the atmosphere within them becomes disagreeable. Under such circumstances use of the direct spraying apparatus is advocated. Mention is made of the various medicinal sedatives that may be used for lessening the phreno-glottic spasm—principal among which are bromide of potassium, ether, musk, belladonna andaconite, in varying combinations and proportions. The author, however, especially recommends codeine. He has found that it is well borne in doses of $\frac{1}{6}$ gr. each 24 hours, below one year of age, and $\frac{1}{3}$ gr. at age of 3 and over. For systemic effects, the alternative tonics should be employed. When all medical means fail, and surgical treatment becomes imperative, the author gives his preference to intubation over tracheotomy, where it is possible to have the patient constantly attended by an experienced person, who will know how to act in case of accident, such as dislodgment or obstruction of the tube. Where such attendance cannot be had, he does not appear to favor intubation.

Ross.

A Contribution to Laryngofissure—C. NASI—*La Clinica Chirurgica*, Anno 7°—N°. 4, Aprile, 1899.

As a proof the value of this operation, especially in stenosis subsequent to tracheotomy, the author gives the following clinical observation: A child of five had tracheotomy performed on account of laryngeal polypus. After two months a second polypus was removed through a low tracheotomy, but it was found necessary to retain the cannula as respiration was otherwise impossible. The patient presented himself two years afterward, asking to be freed from the cannula, his respiration having become still more obstructed. Professor Ruggi, thinking that the stenosis might be due to the recurrence of papilloma, had recourse to laryngofissure. Having divided the thyroid cartilage and opened the larynx he removed numerous small papillomata, and having curetted the part provided for the dilatation

of the laryngeal canal by a special method of plugging. He introduced into the laryngeal wound a pouch of rubber cloth, and filled this with small pieces of sterilized gauze. The wedge shape taken by this pouch served as a dilator, while the rubber cloth has the advantage of not sticking to the mucous membrane. This dressing was renewed daily for several days, then every two or three days during two months, till at last the cartilages had yielded to the action of the tampon, when the cannula was removed and the tracheal fistula and laryngeal wound were closed, and twenty days later the patient left the hospital cured, with his voice still aphonic, but slowly becoming clearer.

FERRERI.

A Few Little Changes in Tracheotomy Tubes—RICARDO BOTÉV—Barcelona—*Archiv für Laryngologie, Band ix, Heft 3.*

The principal change suggested is, that the inner end of all tracheal tubes shall be continued in a straight line for one or one and a half centimeters. This the author thinks will prevent the escape of the tube from the trachea, an accident which occasionally happens where the whole tube is the segment of a circle.

In order that the inner tube may fit snugly into this straight portion and yet be removable, its own straight section is composed of three spirals which accommodate themselves to the curved portion of the outer tube as they are drawn or pushed through. He approves of the Lüer tracheotomy tube in so far as the tube is loosely attached to the outer shield, thus allowing the tube proper to rise and fall with the trachea during respiration and avoid all rubbing on the endotracheal mucous membrane. They are rounded off at the inner end and not cut squarely across. Each tube is about 2 mm. smaller in diameter at the inner end than at the outer. Several changes in the shape of the outer shield are suggested. This pattern is both narrower and shorter than that in ordinary use; while the tube does not pass through the middle of the shield but near its upper border. The edges are turned outward to avoid injury to the surrounding soft parts. Some other slight modifications are suggested, but these are the most important.

His own set of 4 tubes have the following measurements:

No. 1. Curved on a radius of 7 cm., is 6 mm. in diameter at the inner and 8 at the outer end. Its length is 6½ cm. This is for children 1 to 4 years of age.

No. 2. Curved on a radius of 8 cm., is 8 mm. in diameter at its inner and 10 at its outer end. Its length is 7 cm. This is for children 4 to 10 years old.

No. 3. Curved on a radius of 8 cm. Diameter of inner extremity 10 mm., outer extremity 12 mm. Length 7½ cm. For women and youth of 10 to 15 years.

No. 4. Curved on a radius of 9 cm. Inner end 12 mm. in diameter, outer 15 mm. Length 8-8½ cm. For adults and youths of more than 15 years.

VITTUM.

The Treatment of Nervous Aphonia—GUSTAV SPIESS—Frankfort, Maine—*Archiv für Laryngologie, Band ix, Heft 3.*

After referring to the milder cases of hysterical aphonia which yield to almost any form of treatment, the author advances to the consideration of those severe and long continued cases which usually resist all efforts for their amelioration. He draws attention to the irregular and incoördinate contraction of the muscles of phonation. In severe cases he finds invariably that there is a spastic condition of some set of muscles which interferes with phonation. This condition may affect the muscles of the tongue, the mouth, the neck, etc. Wherever it may be, he attempts to overcome it by passive movement and massage of the parts. He then adopts a plan of deep respiration and the methodical practice of certain vowel sounds. His experience has been that few, if any, cases fail to respond to this treatment.

The same methodical practice of these various vowel and consonant sounds is recommended as a routine measure after the extirpation of Singer's nodules; also in cases of strained vocal cords in consequence of faulty tone production (as with preachers, teachers, and especially military officers.)

VITTM.

Reflex Cough—GEO. L. RICHARDS—*Med. Rec.*, August 5, 1899.

Under reflex cough the author includes all coughs of extra respiratory origin, which are due, directly or indirectly, to irritation of the fibres of the pneumogastric nerve, peripheral or central. The wide distribution of this nerve explains how manifold are the possibilities of origin of reflex cough. Included in reflex coughs are the coughs of pressure origin, aneurism, enlarged thyroid and new growths outside the trachea and larynx. Nasal coughs are included as the vaso-dilator nerves communicate with the pneumogastric. Reflex cough is characterized by some of the following: Sudden appearance; rhythmical character; free intervals where no signs of cough are present; expectoration, absent or slight in amount; no fever or marked constitutional disturbance; may continue for years, or stop at any time, or eventuate in other symptoms; may come at regular intervals; stops when attention is drawn to something else; is worse when patient is under observation; if it stops for a time begins with an explosion; is usually absent at nights, always if purely nervous; absence of physical signs in respiratory tract; cough apparently useless; complaint of usual symptoms of catarrhal cough; tone various, as hacking, bellowing, shrill, croupy, metallic, or hoarse from tune cords. The diagnosis is often difficult. Reflex coughs may be due to pregnancy, uterine disease, bladder, intestines, liver, stomach, ear, and a case is mentioned where cough of a terrific character persisted for years from irritation of an old cicatrix the result of removal of a benign tumor from the shoulder blade. A series of cases illustrative of various forms taken by reflex coughs are submitted. F. C. E.

Two Cases of Catarrhal Hemorrhagic Tracheitis—G. PISENTI—
Archivii Italiana di Laringologia, Fasc. 3°, 1899.

First Case—A young man of twenty-two, in good health and condition, after a bicycle ride, was seized with hemoptysis. An examination of the chest was negative, the author thought that he must have to do with a case of pharyngeal or laryngeal hemorrhage, although the point of origin was not visible. Two years afterward the patient was suddenly seized with a second hemoptysis, produced by moral depression. As in the first case, the hemoptysis ceased in a few days and the examination of the chest was negative. Being assured that there was nothing serious, the patient enjoyed good health for three years, when he presented himself again with a third hemoptysis. No explanation was found in the chest, but being anxious about his condition the patient went seeking advice from several physicians and laryngologists, finally returning to ask help from the author who proceeded to make a tracheoscopic examination. He found the characteristic varicose dilation of the veins which run below the mucous membrane between the cartilaginous rings of the trachea.

Second Case—A robust youth had suffered in childhood from epistaxis. At the age of sixteen he had his first hemoptysis, which was repeated after two years, preceded by a feeling of irritation in the throat, examination of the chest and sputum was negative; laryngoscopic examination showed varicose dilation of the tracheal vessels.

The author explains this hemoptysis as due to hereditary weakness of the veins. In the first patient he observed the extraordinary development of the veins in the hands, limbs and neck, with slight varices on the legs, and the author traced in the family several relations affected with hemorrhoids, the father suffering from large varicose veins in the legs. In the second case the frequent epistaxis, together with the fact that the uncle suffered in the same way, while the grandfather had both varicose veins and hemorrhoids, tend to prove the hereditary nature of the affection.

FERRERI.

Normal Breathing in the Treatment and Prevention of Tuberculosis—GEO. J. HOLMES, New Britain—Reprint from Proceedings of Conn. Med. Soc., May, 1899.

Much of this article deals with the anatomy and physiology of the respiratory apparatus. Some general sanitary discussion is introduced not strictly germane to the title, and at the end an article discussing otitic tuberculosis, including therapy, is inserted that more properly should constitute a separate paper, since it has nothing to do with breathing as a preventive and therapeutic measure for tuberculosis.

The importance of free respiratory passages is urged and some interesting estimates are furnished showing the amount of oxygen necessary to the normal human economy. F. C. E.

Case of Intrinsic Cancer of the Larynx; Total Laryngectomy;**Recovery—J. W. LEECH—*The Lancet*, February 18, 1899.**

The patient was a man, aged fifty-seven, with a five months' history of dyspnea and dysphagia. The local condition is described as follows: "A small pearly, white nodule was seen in the middle of the right cord, while in a corresponding position on the other cord a smaller nodule was just discernible. The two cords, which were markedly hyperemic, were not so mobile as when seen on the previous occasion, the right being the more fixed." The glands were not involved. No venereal history. The operation was performed on November 6, 1898. Tracheotomy was performed, and the thyroid was split, when the growth was seen to be very extensive, reaching down into the trachea. As the patient was then rather collapsed, and as it was seen that nothing but total extirpation could afford any relief, the patient was put back to bed till November 17, when total laryngectomy was performed, including the cricoid and the first three rings of the trachea. There is a full account of the progress of the case, and of the steps taken to adapt an artificial larynx.

As to the microscopical appearances, on cutting and mounting sections which had been stained in bulk by the picro-carmine method, the growth was seen to present the following conditions: A dense layer of squamous epithelial cells bounded the tracheal surface of the growth, the most superficial of which, having taken the stain very indifferently, were rather indistinct. From the deep surface of the prolongations were to be seen here and there dipping into the subjacent tissues. In a dense stroma of new connective tissue, in which there were marked cellular infiltration and nuclear proliferation, numerous squamous nests of various sizes were seen. These were most abundant towards the free surface of the growth, diminishing markedly in number when followed outwards.

The author summarizes his conclusions, and in view of the interest of these cases we give them in his own words:

"If I may be pardoned for presuming to offer suggestions founded on the experience of one case only, I would like to make the following observations: (1) The advantage of an interval of time between the tracheotomy and the more serious operation, which in this case at least was most marked, cannot be over-estimated. Not only by affording almost complete relief to the dyspnea and in a less degree to the cough did it effect a profound improvement in the patient's general condition, but also by dividing the shock, as it were, it gave the patient time to rally under immensely improved conditions. The breathing, too, under the anesthetic on the second occasion, when tolerance to the tube had been established, was much more satisfactory. (2) Seeing that this is an operation *par excellence* where time is of the utmost importance, it is difficult to understand why in most of the recorded cases the operator has usually selected a Hahn's sponge tampon, which

necessitates a delay of fifteen minutes for its dilatation. On this account, and because Trendelenburg's tube, which can be immediately dilated, lends itself far more readily to asepsis than does Hahn's, I very much prefer the dilating tampon-tube. (3) The extensive nature of the growth in this case, with the entire absence of glandular involvement, would seem to support Semon's view of the isolation of the laryngeal lymphatics, but, unfortunately, Sappey's anatomical investigations, which have entirely disproved that eminent laryngoscopist's contention, compel one to admit that the question yet awaits a satisfactory solution. (4) The ease with which deglutition was performed almost immediately after consciousness had been regained, the non-necessity for Symond's tubes, and the entire absence of anything like the alarming hemorrhage which is often encountered in these cases, and which, in this case, might have been excessive, as the patient had a short, stout, muscular neck, I attribute entirely to the adoption of the method suggested by Mr. Henry Morris of freeing the perichondrium and its attachments with a raspator, and avoiding the severance of any muscular structure other than the platysma. (5) The very low tracheotomy which was done in spite of Guessebauer's contention to the contrary, with a view to secure more ample working space, was afterwards justified by the extensive nature of the growth. (6) Seeing that in cases of malignant disease of the larynx attempts at sampling the growth by intra-laryngeal snaring frequently prove abortive, and, moreover, often stimulate growth, I consider thyrotomy to be infinitely preferable, and that it ought to be performed in doubtful cases, as by this means the extent and nature of the disease are accurately determined, and treatment can, if consent be previously obtained, be carried into effect immediately."

STCLAIR THOMSON.

A Case of Hysterical Larynx—F. C. HOPKINS—*N. Y. Med. Jour.*,
Dec. 2, 1899.

The patient was a girl fifteen years old, anemic, nervous and rapidly growing. Aside from the throat symptoms there were no other hysterical symptoms. At the time of school examinations she had an attack of pertussis. The whoop continued, but developed into a squeal, similiar in character to that of a badly hurt pig. This squeal became both inspiratory and expiratory, which was preceded by a sense of tickling in the throat. She was brought to the writer for a peculiar and terrifying spasm of the larynx, which frightened the occupants of the doctor's waiting room.

Some relief was given by the larynx examination and an application of the galvano-cautery to an enlarged lingual tonsil, but the attack soon returned and patient was referred to the "nervous ward" of a hospital. Though treated for four months no good was accomplished. The introduction of an intubation tube afforded a happy result, as there was no recurrence.

LEDERMAN.

V. EAR.

Meatus with Abnormal Direction—EMIL AMBERG—*Physician and Surgeon*, April, 1899.

At the meeting of the Detroit Medical and Library Association, on February 27, 1899, I presented a patient with an abnormality of the meatus on both sides. The photograph (see figure) has been taken after wooden sticks, covered at their ends with cotton,



had been introduced into the external auditory canals for about 1.5 centimeters from the outer upper margin. The patient, Mr. J. P. B., thirty-two years old, is tall, has a somewhat high, well-rounded hard palate, and a rounded depression in the lower sternal region, of about ten centimeters in diameter and four centimeters in depth.

A. A.

Compound Comminuted Fracture of the Osseous Wall of the External Auditory Canal—JAS. J. CARROLL—*Journ. Eye, Ear and Throat Diseases*, Vol. iv, No. 3, July, 1899.

Preliminary report. The patient fell upon a pavement on his chin. A detailed account, with the result, will be given in a future paper.

EATON.

Bilateral Aural Lesion Following Traumatism—J. F. McCAW—
Annals Otol., Rhinol. and Laryn., February, 1899.

Case of supposed double labyrinthine trouble, incident to a fall upon the back of the head. Patient had no ear trouble previous to the trauma. Immediately thereafter was seized with headache, epistaxis, vertigo, nausea, vomiting, severe tinnitus, but retained consciousness. At end of four days these symptoms abated, but hearing failed. After nine months when case was seen by the author there was a high degree of impairment of hearing, and the usual indications of internal ear disease. Case was under observation one month, during which time pilocarpin, strychnia and iodide of potash were employed with negative results. Patient then passed from observation. The only other similar case the author finds was reported by Kaufman, *Vienna Medical Journal*, 1897. The extreme variety of symmetrical traumatic lesions, and the complexity of the acoustic apparatus leaves the diagnosis doubtful.

F. C. E.

On the Use and the Value of Auditory Exercise in Deaf-Mutes and the Very Deaf—TREITEL—*Klinische Vorträge aus dem Gebiete der Otologie und Pharyngo-Rhinologie*—II Band, 11 Heft, 1898.

In this monograph the author has reviewed the labors of many workers in this line. Particular attention, however, has been given to the reports of Urbantschitsch and his method is given in considerable detail. Although the results obtained by Urbantschitsch seemed at first to warrant great hopes of achievement in this direction, yet a calm and dispassionate summing up of all the obtainable reports seems to show that no real practical progress has been made. Among deaf-mutes quite a large per cent have some power of hearing. It is of course very slight, but, by carefully cultivating this little, some of the patients reached a point where they seemed to hear words and even phrases spoken at a distance of several feet.

Close scrutiny of these cases, however, showed that in almost every instance the patients comprehended clearly only those phrases with which they had become familiar by frequent repetition. No practical gain in the direction of intercourse by word of mouth had been made.

These attempts have, however, brought into prominence the fact that there is a form of deafness, we may call it functional, or hysterical if we will, where the amount of auditory disturbance is much greater than we should expect from the changes that have taken place in the organs involved. The functional disturbance is out of all proportion to the lesions. These cases frequently recover. Urbantschitsch has proved that auditory exercises help this class when all other therapeutic measures have failed. It is, therefore, advisable to practice these exercises in all cases where functional deafness is suspected. The real deaf-mutes are more benefited by learning to read the lips.

VITTUM.

On Diphtheria of the Ear—G. GRADENIGO—*Bollettino del Policlinico Generale di Torino, 1899. No. 10.*

The inadequacy of bacteriological studies on diphtheria in the ear has stimulated the author to the publication of this note. Having indicated the method in which both directly and in a secondary way the diphtheritic process gets localised or transmitted to various parts of the ear, he goes on to describe the clinical appearances of diphtheria of the auricle, of the external meatus, and of the middle ear. The ulcerations of the dermis covered with adherent pseudo-membranes, the swelling of neighboring glands, constitute according to the author the characteristics of diphtheria of the auricle and meatus. Greater gravity is presented by diphtheric acute otitis media, its diagnosis resting on two points—the onset of fibrinous membrane from the ear through the tympanic perforation, and the demonstration of the Clebs-Löffler bacillus in the exudation. The treatment suggested by the author is general and local; that is to say, consisting in the administration of anti-toxin and providing for the suppuration of the false membrane by peroxide of hydrogen, weak solutions of corrosive sublimate, and non-irritating antiseptic powders. In otitis interna and in suspected neuritis of the auditory nerve, the author has recourse to diaphoresis with vapor baths, and then makes use of iodides, strychnine and tonics

FERRERI.

Two Cases of Otitic Meningitis; Recovery—BORMANS—*Gazetta degli Ospedali, No. 91, 1899.*

These two observations are interesting, not only for the happy recovery, but also on account of the importance and efficiency of Quincke's puncture. The first case was that of a boy affected with purulent otitis media, and representing the picture of true meningitis. Paracentesis gave exit to much pus, but an explorative antrectomy was negative. As the meningeal symptoms and papillitis persisted Quincke's lumber puncture was carried out, and the liquid was found to be turbid, and when cultivated in broth very abundant staphylococci were found. They were also controlled by the examination of the blood of a mouse which had received an injection of two c. c. of the broth culture. After the puncture the patient was better. A second puncture was carried out after five days, and the cure proceeded rapidly.

The second observation was in a woman aged 45, affected with purulent otitis media with meningeal phenomena. A small Quincke's puncture gave slight relief and a diminution of fever. The antrum having been opened and colectomatous masses being removed, a second lumber puncture was practiced the following day and a cultivation of the liquid in broth showed staphylococci. Progressive and decided progress followed.

The author advises the practice of Quincke's puncture in these forms, in view of its harmlessness and the improvement brought about in the phenomena of compression.

FERRERI.

Treatment of Uncomplicated Suppuration of the Middle Ear—

H. A. ALDERTON—*Annals Otol., Rhinol. and Laryn.*, February, 1899.

The author advocates pilocarpin and atrophin in acute non-suppurative inflammation—the former to relieve the vascular tension in robust patients, and the latter to limit secretion. He occupies no middle ground upon the question of syringing, the soaking of the dressing calling for copious syringing “at least a pint of liquid repeated every two to four hours, according to the quantity of the discharge.” An antiseptic may be used, but is not necessary if the canal is thoroughly dried after each syringing—“the only purpose of the antiseptic being to prevent infection of the skin surface, as the solution never reaches the middle ear.” The ear is not contaminated from the canal if the latter is freed from decomposing substances. “The chances of forcing infected material into the mastoid cells being not worthy of consideration in contrast with the benefits derived, and this seems especially problematical since Forn’s experiments, and since Politzer has shown that the same process exists in the mastoid process.” “In all cases of suppurative otitic media in which there did not exist during life any traces of inflammation of the mastoid process, when an autopsy was made, we constantly found pus in the mastoid cells.”—*Ann. des Mal. de l’or*, 1892, No. 5.

Powders are never employed in acute suppuration; they never reach the inflamed surface, the perforation being too small, and they tend to pack in the nidus between the drum membrane and the antero-inferior canal wall, interfering with cleansing, obstructing the perforation, causing retention, and forming a nidus for decomposing secretions. The necessity for free drainage is emphasized in the discussion of chronic suppuration and the syringe advocated here, also. Should the perforation be at all small it is the author’s custom to excise, under cocaine, a large segment of the drum membrane in the region of the pre-existing perforation, the regenerative form of the membrane insuring satisfactory closure in the majority of cases. Then may the remedies reach the seat of the disease. The rest of the paper is along conservative and established lines.

F. C. E.

On a Special Otoscopic Symptom in the Diagnosis and Prognosis

of Hyperplastica Otitis Media—GERONZI—*Bollettino della Società Lancisiana degli Ospedali di Roma*, Anno xix, Fasc. I° pag. 218).

The author has found that after catheterism and intra-tympanic injections of iodide of potassium, sulphide of pilocarpine, etc., in hyperplastic forms of otitis there is no consequent hyperemia of the tympanic membrane. This appears on the other hand in chronic catarrhal otitis, and is a favorable symptom of recovery. The author finds the natural explanation of this in the condition of circulatory irritation of the mucosa.

FERRERI.

Otitis Media Chronica—J. H. McCASSY, Dayton, Ohio—*Charlotte Med. Journ.*, January, 1899.

Suppuration of the middle ear has a death rate of $2\frac{1}{2}$ per cent. The author states that suppuration, through neglect, passes from the middle ear and invades the labyrinth and causes the condition known as Menière's disease. Otorrhea rarely gets well without treatment on account of the absence of glandular element in the otitic mucosa. This membrane serves the double function of periosteum and mucous lining.

The incus is most often necrosed, because the blood supply to it is from one small artery, which is readily occluded by pressure from any slight swelling.

In the treatment of this disease drainage comes first, cleanliness is then an important factor. Antiseptic irrigation has a well-established position. In attic suppuration, the intra-tympanic canula is very useful. Any treatment that fails to remove the bad odor is not succeeding and should be changed. Pathological debris must be removed. The author does not believe in peroxide of hydrogen in the treatment of otorrhea, as the pressure of the gas liberated may cause damage to the soft parts.

Boric acid has proved itself a safe drug. Nosophen is mentioned as a very valuable drug in checking bacterial activity and in absorbing inflammatory products, thus promoting rapid healing in suppurating cavities and surfaces.

Nosophen gauze is preferred to iodoform, as the latter oftentimes causes considerable irritation. Perforations of the membrane are stimulated with a saturated solution of trichloracetic acid, as suggested by Stein, and an antiseptic powder, like nosophen, is dusted into the canal. Gauze is then placed in the ear. Weak solutions of silver are also employed to stimulate the perforations after the trichloracetic acid has been applied.

LEDERMAN.

A Case of Sinus Thrombosis—A. R. BAKER—*Cleveland Med. Gaz.*, September, 1899.

Marked symptoms of sepsis following an operation upon the mastoid in the absence of cerebral symptoms, lead to the diagnosis of sinus thrombosis. Exposure of the sigmoid sinus showed lack of pulsation, and no hemorrhage followed opening. The sinus was curetted upward till blood flowed freely, then it was tamponed with iodoform gauze. The lower portion was treated in the same manner, curetting well down into the jugular. Complete and uncomplicated recovery followed.

A. EWING.

Delusional Insanity Following Concussion—L. R. CULBERTSON—*Annals Otol., Rhinol. and Laryn.*, February, 1899.

Report of case of epileptic with tinnitus in left ear, dating from firing of a gun near the auricle and continuing ten years. The author concludes that concussion of the left auditory nerve caused the deafness with partial degeneration, and consequent hallucinations of hearing with which the patient was afflicted.

F. C. E.

Objective Auditory Tinnitus from Clonic Spasm of the Soft Palate

—GERONZI—*Bollettino della Societa Lancisiana degli Ospedali di Roma*, Anno xix, Fasc. I° pag. 211.

The author reports the case of a hypochondriac who in consequence of a serious disappointment commenced to suffer from the noise in the ear similar to the tic-tac of a watch. This was due to a clonic contraction of the levator palati which threw the uvula against the posterior wall of the pharynx. Otoscopic examination was negative. The author is of opinion that in neurotics affection of the soft palate is not rare, especially as a result of emotion. They would be due to irritation of the spinal vagus which he maintains is the enervator of the palate muscles, with the exception of the levator palati which is supplied from the third motor branch of the trigeminal

FERRERI.

Mastoid Complications in Otitis Media Acuta—S. G. DABNEY—

The Medical Age, October, 1899.

The writer describes a case of mastoid periostitis in a patient twenty-six years of age in which there were intense pain and marked fever. Free incision was followed by relief of all symptoms, and prompt recovery.

The same writer describes a case of mastoiditis in a child five years of age with absence of pain though the cells were found full of pus. He also describes one in which the mastoid cells and the antrum were united into one great cavity, though there was no involvement of the middle ear.

A. EWING.

VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.**Hemorrhage from Esophageal Varices in Latent Cirrhosis of the Liver**—MARMASSE—*Gazette Hebdomadaire de Med., etc.*, January, 1899.

The author exhibited the liver and esophagus of a man who had had hematemesis without presenting at the time any sign of cirrhosis. Subsequently, however, cirrhosis of the liver was recognizable clinically. After his death, three varicose swellings were found in the lower portion of the esophagus, and there was an erosion, plugged with a clot, at the summit of each dilated venule.

SCHEPPEGRELL.

The Use of Antitoxin in the Treatment of Diphtheria—J. J.

WILLIAMS—*West. Med. Rev.*, Vol. iv, No. 2, February, 1899.

Contains remarks on this subject, and report of nine cases.

EATON.

The Use of Diphtheria Antitoxin in General Practice, with the Results of the Treatment of 122 Cases of Diphtheria—J. R. ARMSTRONG—*The Lancet*, March 4, 1899.

This paper is written in view of the author's opinion that the general practitioners of the day do not employ antitoxin as often as they ought to do in the treatment of diphtheria, and do not seem to recognize the value of the sovereign remedy which they have at their disposal.

STCLAIR THOMSON.

The Complications of the Serum Treatment of Diphtheria—CHARLES BOLTON—*The Lancet*, April 1, 1899.

These complications are the following: Rashes, pains in and around the joints, fever, transient albuminuria, abscess, bruising, and sloughing at the seat of injection, and certain constitutional disturbances.

In conclusion, one may say that the complications of antitoxin are at times very painful and inconvenient, but quite harmless, the only exception being one case in which sloughing occurred, and in that case the child was in an exceedingly bad condition, as the result of scarlet fever and diphtheria combined, when the antitoxin was administered.

STCLAIR THOMSON.

Two Diphtheria Cases Treated by Antitoxin Hyperdermically, and**Four Cases Immunized Per Orem—C. G. STIVERS—*South. Cal. Pract.*, Vol. xiv. No. 9, September, 1899.**

The two cases treated by antitoxin injections presented nothing unusual. Four other children respectively eleven, six, four and two years of age were exposed; isolation was out of the question. Fifty to one hundred units of antitoxin, according to age, were given by mouth. None of the children contracted diphtheria, and no unusual reaction followed the antitoxin. In every way it seemed to meet the same indications as injection, but further observations are needed to establish the fact that antitoxin per orem is as efficient in immunizing, or therapeutically, as injection EATON.

Some Thoughts in Regard to Diphtheria—E. F. STRICKLAND—*The New Albany Med. Herald*, October, 1899.

The writer holds that diphtheria and membranous croup are identical. Antitoxin is of value in cases of unmixed infection, but of little service if there is septic infection. The danger from anti-toxin arises from the animal serum and the concentrated form should be employed. In addition to antitoxin he makes free use of stimulants if the heart is weak or very slow, or vomiting occurs. He has never seen a case of diphtheria recover in which the pulse dropped down to forty or below. He treats the mucous membrane by free washing with hot normal salt solution. If nephritis occurs he wraps the patient in a hot pack three or four times a day and gives large amounts of water to drink. DETWILER.

Two Hundred Consecutive Cases of Diphtheria Treated with

Anti-Diphtheritic Serum—A. J. TONKIN—*The Lancet*, October 21, 1899.

This study is illustrated by a series of interesting tables showing the mortality according to the situation of the membrane, according to age and sex, in relation to day of illness on which antitoxic treatment was begun, etc.; also tables showing the amount of albumin cases, the frequency and the mortality of tracheotomy, etc.

The foregoing figures and statements tend to establish the following results as to the use of antitoxin: (1) The general mortality rate is reduced. The mortality cases treated during the first three days of illness is reduced to about 3 per cent, and that for all other cases to about 12 per cent. (2) Laryngeal cases treated early are markedly affected for the better, the death-rate being very considerably reduced. (3) The tracheotomy mortality is very much lessened. (4) There is less need for tracheotomy if treatment be begun early. (5) All ages and both sexes are equally affected. (6) The chances of nephritis are lessened. (7) When treatment is begun early albuminuria may not appear, will probably not be severe, and will disappear soon. (8) Paralysis is lessened for cases treated on the first and second days of the illness. The paralysis mortality is much reduced. (9) Extension of disease to the larynx and parts below was not noted after injection of antitoxin. (10) The only disadvantage noted after its use was a slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxic treatment.

STCLAIR THOMSON.

Diphtheria and Intubation—C. C. FURLEY—*Kan. City Med. Index-Lancet*, Vol. xx, July, 1899.

The writer considers that intubation is more likely to aggravate than cure that class of cases where the inflammation extends to all parts of the bronchial ramifications and the stenosis does not exist in the trachea alone. On the other hand, where diphtheria is present, intubation is the better operation.

EATON.

Probable Persistence of Thyro-Gland Duct—I. W. MCINTOSH—*British Medical Journal*, May 6, 1899.

A woman, aged twenty-one, with enlarged thyroid gland, had offensive discharge in her throat without vomiting or coughing it up, and with no accompanying catarrh. When discharge was profuse she remarked diminution in size of enlargement, and firm compression on the gland produced the discharge.

The author thinks it might probably be a persistent thyro-gland duct from the middle lobe of the thyroid gland. Inunctions of lanoline and iodoform over the thyroid gland cured the discharge in about a month.

FOXROFT.

Foreign Bodies in the Pharynx and Esophagus—ROBERT JONES—
The Lancet, May 6, 1899.

The article is a consideration, with some personal experiences, of the guiding principles in the treatment of foreign bodies in the upper food passages. From a study of his own cases of esophagotomy and a perusal of general results, the author submits the following conclusions: (1) That bodies which have lain for some time and given rise to symptoms of obstruction, irritation or dyspnea should be operated upon without delay; (2) that forcible attempts at extraction by the mouth are to be condemned; (3) that sharp or irregular impacted bodies specially demand esophagotomy; (4) that in certain cases gastrotomy is indicated and in some a combination of gastrotomy and esophagotomy; (5) that where the wound in the esophagus is jagged or its walls inflamed no stitches should be used; (6) that the routine practice where the esophageal wound is clean cut is to stitch it up with a continuous suture, care being taken, as in the case of the intestine, not to pierce the mucous coat; (7) that only in very exceptional cases, where no danger of suppuration and infection exists, should the external wound be closed; and (8) that liquid food may be given by the mouth in about twenty-four hours after operation. STCLAIR THOMPSON.

Diphtheria, Analysis of One Hundred Cases—J. M. DAY, Dublin—
Dublin Med. Journ., August, 1899.

The writer briefly analyses the cases admitted into hospital during the year 1898-99, the total 100, was the largest number of admissions recorded in any year, and it also showed the lowest death rate, eighteen cases were fatal. Antitoxin was found the most successful form of treatment. Sometimes a severe type of case came under treatment, sometimes a mild, these types varying at different periods of the year. There were sixty-seven cases where the diphtheria was mainly tonsillitic, of these two died, twenty-seven had associated nasal diphtheria, and of these ten died, sixteen had laryngeal symptoms and six died. The writer insists on the necessity of early treatment and comments on the insidious commencement of the disease with apparently few symptoms.

A. LOGAN TURNER.

VII. INSTRUMENTS AND THERAPY.

**The Local Use of Formalin in the Treatment of Atrophic Rhinitis,
Etc.—ADOLPH BRONNER, Bradford—*Journ. Laryn. Rhin. et
Otol.*, October, 1899.**

The first indication in this affection is to thoroughly cleanse the cavities and remove the inspissated crusts. The second indication was to alter the nature of the secretions of the mucous membrane, and thus prevent the accumulation of dried secretion.

For this purpose the author orders an alkaline lotion to be used with a Higgenson's enema syringe. If there are any patches of hypertrophied tissue, these are removed with the galvano-cautery or trichloracetic acid.

He employs in bad cases a 1 to 1,000 to 1 to 2,000 solution of liquid formalin with water, to be used with a small nasal syringe, or a 1 to 500 to 1 to 1,000 solution with a little of glycerine added, to be applied with a coarse spray, three or four times daily. Formalin seems to have a powerful effect upon the glandular tissues. In his experience the maxillary antrum was affected in about 25 to 30 per cent of cases.

LEDERMAN.

Nosophen and Antinosine—WM. MANN, Chicago—*The Med. Fort-nightly*, October 2, 1899.

Nosophen is recommended after enucleations of the eye ball, being dusted in the orbit. Healing takes place rapidly and no infection follows. Daily applications of this remedy, and hourly applications of a two (2%) per cent solution of antinosine has given very good results in spreading ulcers of the cornea. The former drug is said to be of decided service in assisting the absorption of corneal opacities.

In aural work, nosophen mixed with equal parts of powdered boracic acid has given good results in chronic suppurative disease of the middle ear. The nosophen gauze in the external canal promotes drainage. The gauze can be freshly sterilized by dry heat.

In acute suppurative cases and in chronic instances, where irrigation is desired, antinosine solutions, in two and three per cent solutions are advised. First cleanse the canal and middle chamber, and then fill the canal with the antinosine solution.

The nosophen salve is said to act satisfactorily in chronic eczemas of the canal.

A number of causes are cited in which these new antiseptics were used with pleasant results.

LEDERMAN.

JOSEPH C. MULHALL.

THE LARYNGOSCOPE must convey the sad news of the death of this distinguished laryngologist to many who knew him, and valued his teachings. He had long been a victim of an incurable nervous malady, which of late had so worn upon his vitality that in a moment of melancholy he was driven to end his life.

Dr. Mulhall was born in St. Louis in 1851, graduated from the St. Louis University, and took his degree in medicine from the St. Louis Medical College. Later, he studied in Dublin, Vienna and Berlin, and was for long an assistant to Sir Morrell Mackenzie. He commenced practice in St. Louis in 1879, and rapidly rose to distinction. Until last year, when he resigned on account of ill health, and was accorded the title *Emeritus*, he was Professor of Diseases of the Throat, Chest and Climatology in the Beaumont Hospital Medical College. Many practitioners who listened to his lectures stand ready to attest his success as a practical teacher.

In 1898 Dr. Mulhall was President of the St. Louis Medical Society, and he was also a member of the American Laryngological Society, American Climatological Society, American Medical Association, Missouri State Medical Association and numerous other organizations, in all of which he was active. His contributions to medical literature covered many and diverse subjects, and his intuitive genius developed several valuable instruments. His reputation extended over the land and across the sea. An honored member of several of the most exclusive scientific societies in America, when he spoke wise men sat still and listened. As a diagnostician in the sphere of laryngology, and all of the chest, he had few peers, and no superiors in the entire West,

If it be true that a prophet is not without honor save in his own country, then Dr. Mulhall belied the proverb. Here, at home, his death is considered a calamity by the profession, who are the best judges of his worth. Under the cold and critical eye of his confreres he sustained their confidence.

No physician in St. Louis did a larger consulting practice, and none as large in his chosen field. He was a specialist in the broadest and best sense. As Lord Bacon "took all knowledge for his province", he took all of the human economy for his province, and laryngology for his practice. An original and aggressive thinker, his resourceful mind evolved the simple truth from the most complex and abstruse scientific problems. His professional position was the reward of true merit. Fine arts and smooth ways, that frequently supersede merit, or gain for their possessor a place beyond his deserts, did not contribute to his success. Like Antony, he was "a plain, blunt man." Sentiment nor sympathy allowed him to cloak a condition if the truth was wanted. In a spirit of kindly advice he once said to the writer: "It pays to tell the candid truth when they ask for it—bye and bye they come in droves to hear it." So, they did.

